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THE TECHNIQUE OF BLOODLESS WORK.*

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The older the surgeon, the greater becomes his respect for a drop of blood. All cutting operations on the extremities should be bloodless ones, and all elsewhere as nearly so as possible. Every drop of blood saved is a safeguard against shock; and bloodless work permits the same speed and facility of dissection that one could employ on the dead body.

At one time Petit's tourniquet, or some other, similar in principle, was the chief means for accomplishing this end. In emergency a Spanish windlass, made by loosely knotting about the limb a towel or other strong piece of cloth and then twisting a stick in it until all circulation ceases, is equally effective. Later came the use of the Esmarch rubber bandage; and until within the past few years, was for a time in regular use among surgeons. With this the blood was entirely stripped from the limb. Beginning at the foot, for example, it was carried, each turn drawn very firmly and slightly overlapping the last, up the leg, to a point well upon the thigh, where it was fastened. Then it was unwound from below up to the final turn, leaving the limb white and exsanguinated. This method is now little used. It had its advantages, but they were outweighed by certain objections. One of these is the fact that vessels subjected to such an extreme emptying and stripping process are irritated thereby. Their vasotonic nerves are temporarily paralyzed, and when the blood is again permitted to enter the limb there is distinctly more oozing from such dilated capillaries and arterioles than would otherwise be the case. Elevating the limb or the stump, and firmly pressing for an hour or longer upon the site of the wound, do to be sure minimize this oozing, but there is, nevertheless, commonly a clot formed therefrom within the wound. And all surgeons know that a wound left quite dry—cut flesh against cut flesh—always heals best and most quickly.

Again, in amputation, the operator, if he be a general practitioner, may have become a bit rusty in his anatomical knowledge, and fail to locate the chief vessels. In the leg, we have Holden's rule: "One inch below the knee, one great artery to find; two inches, two great arteries; three inches, three great arteries." If the operator, because of their retraction, or because of a bit of fat or muscle falling over the open mouths, fails to find and control all these—and several minor ones—there is likely to be an ugly hemorrhage within a few hours. Here comes in an advantage of the present method in general use.

This consists in stripping—milking—by the fingers, for some minutes, the blood out of the elevated limb; the operator massaging along the course of the chief veins. Then, at the desired point, is applied the constriction, which is either an ordinary stout rubber bandage, or a very large rubber tube. In the former case this is ended by slipping what is left of the roll—after encircling the limb tightly a few times—beneath the final turn, the roll lying preferably over the chief vessels. Should a rubber tube be the choice, the larger in caliber the better, for it is less apt to injure the muscles and nerves beneath by its pressure; a tube of pure black gum an inch and a half in diameter, and long enough to encircle the thigh twice or thrice when unstretched is to be preferred. This is fastened very simply. We tie together the crossed ends, while still tense, with a short piece of wet bandage, using a single loop knot. Being wet it will not slip. Avoid tying a hard knot, for if the tense rubber be pricked in cutting it, the tube will be weakened and the cut be liable to enlarge and to give way when least desired. To remove, draw on the tube-ends first, thus making them once more smaller in caliber; whereupon the wet bandage loop can be untied with ease.

In consequence of the simple "milking" a small amount of blood remains in every vessel. These are not paralyzed, as is the case where the Esmarch bandage has been used, hence there is small tendency to oozing in the wound; and when the operator has any trouble in finding all the vessels, he strips sharply *down* the chief artery—the popliteal for instance—whereupon every unsecured artery and arteriole will spurt, and be located with ease.

Should the operation be one above the foot or above the hand, many operators think it best to tighten the constricting rubber bandage or tube upon the proximal limb rather than the distal, believing that because the two bones in the latter case protect the arteries between them, a greater degree of constriction is needed than if the thigh or the upper arm be chosen; and hence the leg and the forearm should be avoided for this purpose. But upon the two proximal limbs there is a choice of situations. The upper third of the thigh is so great in circumference as not to be desirable for constriction unless under compulsion, and in the lower third the external popliteal nerve lies near enough to the surface, when approaching the outer hamstring, to have occasionally been paralyzed from undue pressure. As to the arm, constriction at its middle third may paralyze the musculo-spiral nerve where it lies in its groove against the humerus. Hence, we should *select* the middle of the thigh, we should *avoid* the middle of the arm.

Our bloodless work is not wholly limited to the limbs. The scalp may, for instance, be included in this field by the use of a tube carried tightly about the head. This

* Read before the N. Y. State Medical Association, Oct. 18, 1900.

rests in front in the depression between the frontal eminences and the superciliary ridges; at the sides, runs just above the ears; and behind is fastened just below the inion.

Similarly, in amputation or excision of tumors of the female breast, for reasons other than malignancy, the work may be made almost bloodless by cording the breast at the body—first passing through its base crosswise a pair of long mattress needles, to insure against the tube slipping off.

About the bladder, perineum and genitals, both male and female, Trendelenburg's posture secures by gravity a degree of anemia which constitutes a great safeguard, in addition to other advantages resulting from this position. And in work about the face and mouth, and upper part of the neck—a peculiarly bloody field—a ligation of one or both linguals, if a tongue excision, or of the external carotids in other cases, makes a wonderful difference in the ease and safety of the work.

The production of a degree of anemia of the trunk and head by cording of the extremities, was a suggestion of Dr. David Webster, in the *New York Medical Journal*, during 1887, his idea being to make use of this plan for the safety of the patient when the operator has reason to fear collapse from the anesthetic. At first the constricting bands are only placed tightly enough to cause the limbs to swell; and then the arterial flow is also shut off. Some quarts are thus accumulated in the extremities, maintaining a reserve guard of pure blood. And if during the operation the patient suddenly develops signs of excessive narcosis, by removing the bands and holding up the limbs the pure blood at once is mingled with the anesthetized, and almost instantly the patient wakes up. The method is little used, but is certainly ingenious.

This same idea, of constricting the extremities, enables one to do comparatively bloodless surgical work on the trunk, face, neck or brain, and is worthy of more frequent usage than at present. It is also unquestionably the best, indeed the only reliable, method of treating medical—as distinct from surgical—hemorrhage. By a medical hemorrhage, I mean one where direct mechanical control is out of the question: hemoptysis, hematemesis, and apoplexy, for example. It is a curious fact that this best of all methods—and a very old one—has been completely lost sight of by most practitioners.

Some years ago I wrote a paper[1] entitled "Medical Hemorrhage Surgically Treated," and therein discussed this matter. At that time Dr. William Gilman Thompson wrote me that he entirely agreed with me that it was the most reliable way of treating ugly hemoptysis, that he had so found it in his service in the New York Hospital. Nevertheless, Loomis' "Practice" does not even indicate by so much as a word that he ever heard of the method, nor do I now remember any other work upon practice which discusses it.

As to drugs. Dr. Loomis was a pessimist. He advised the use of morphin, simply to quiet the patient and slow the breathing; but nothing else did he think of much value for this purpose, except aconite, if the heart were pumping too vigorously. We know that one of the old names for aconite—besides monkshood and wolfsbane—is "the vegetable lancet"—bleeding a patient into his own veins.

What aconite can do in a very feeble and slow way, cording the extremities does effectively and promptly. Three limbs should be so corded close to the trunk that they swell visibly. This swelling continues until, from cardiac and brain anemia, the patient is made somewhat faint—and consequently there is less vigorous pumping of blood out of broken vessels, and there is a better chance for a firm clot to form there, opposing fresh bleeding when, after two or three hours, the circulation is slowly allowed to resume its ordinary course. The reason three limbs, not four, are to be corded, is to insure their safety. After a half-hour we cord the fourth limb and let up on the first one, and so on in regular order.

A recent sensational murder in politics, in another state, produced a bit of most antiquated and archaic surgery—according to the newspapers and several medical journals, and the statement went uncontradicted. I allude to the fact that in order to try to stop the bleeding from his wounded lung the surgeon bled him a pint or more from his arm! This plan has antiquity to recommend it, but nothing else. He died of shock, apparently, and we all know that hemorrhage invites shock. Had the extremities promptly been corded effectively, accumulating venous blood in them, the ending might well have been a different one.

Obviously, the same method is the proper one in apoplexy, in which there is a ruddy face, hard pulse and stertorous breathing. If the patient is plethoric, bleeding is best, but not otherwise, for he would need that blood later on. A temporary bleeding, into his own vessels, is the thing.

Given a case in which atheromatous vessels, too much eating and drinking, and occasional attacks of dizziness or semi-unconsciousness point toward the probable ending of the story, we should tell the relatives that if this patient should ever be found unconscious and snoring, with a red face, the first thing to do should be to apply Spanish windlasses, even before sending for the doctor; and they should be shown how to make and use them. In this way what might otherwise prove a fatal apoplexy would very likely be reduced to a comparatively small one.

Applying the bloodless method to the surgery of acute injuries, let me discuss for a minute a plan which I got many years ago from Dr. Gerster. Suppose we are dealing with a fresh but obscure injury at the elbow. It may be a fracture, or a dislocation, or both. Because of the swelling an exact diagnosis is impossible; and yet the doctor's reputation may in that case well depend on his accurate diagnosis—for on that alone can his treatment be based. If you wrap the elbow of a skeleton in a pillow and then endeavor to recognize the bony prominences through it, you will approximate the situation. Here comes the point in question, which I have used with satisfaction repeatedly. Anesthetize the patient; then apply the rubber bandage, slowly but firmly, from fingers to shoulder. Leave it on for, say, fifteen to twenty minutes; then undo it from below, but leave the final turn or two in place. Upon examining the elbow the swelling will be found to have disappeared, all the congestion and all the edema being gone; and you can recognize all bony points as accurately as upon the other arm. If there is a fracture, set it; if a dislocation, reduce it; then let the swelling return. You know the facts, can state the probable prognosis, and have protected your reputation.

Time only permits a momentary allusion to certain additional interesting fields which could properly be studied under the head now being discussed. In snakebites, for instance, perhaps the most important point (next to venom antitoxin), is to make a free incision at the bite, and, having corded the extremity high up, milk out every drop of blood, from both directions—prefer-

1. N. Y. Medical Record, Jan. 2, 1892.

ably with the rubber bandage—stripping toward the cut in both instances. And then fight the enemy in detachments. That is, when the patient is a little stronger let up on the tourniquet a moment, thus admitting a little blood to keep alive the limb, and also inevitably giving entrance into the general circulation to a little of the poison which presumably still remains in spite of the stripping. When the heart has withstood the shock of this, again fight another small squad of the enemy by letting up a moment, and so on.

We are all interested in tonsillotomy, and all do it at times. I should like very much to have you try the bloodless method, on which I have written two or three papers.[2] Done *before* the cutting, and by aid of eucain, it is easy to pass, with a stout semicircular needle and holder, the purse-string suture as advocated by the writer; and, after tightening this, the biggest and ugliest tonsillar stump can not bleed a drop when severed. I have heard it said that the method must be difficult of accomplishment, but those who said so have not tried it. It is in adults, chiefly, that tonsillar hemorrhage is dangerous, and nothing can be simpler than this plan, used upon the adult. I believe that it will come into regular use in time.

Under eucain the vessels are not contracted at all—a good point in tonsillotomy, because cocain so shrinks the mass, temporarily, that it is difficult not to leave a large stump, which protrudes after the effect of the drug has worn off. But this power of cocain—and to an even greater degree and a somewhat more lasting one, that of suprarenal extract—is of the utmost value prior to certain operations, for example, within the nose. It is a good plan to use the suprarenal extract first; and when the mucous membrane has become pale, almost bloodless, then cocain in almost any strength can be safely applied, and the operation will be devoid of hemorrhage.

Similarly, solutions of suprarenal extract and of cocain are of great advantage when applied by aid of wet gauze packed into the rectum, vagina, or bladder before cutting for the removal of growths, or for other purposes, in these vascular fields.

I regret that bloodless work as applied to starving malignant growths supplied by the external carotids can not be studied to-day. It is too large a topic. But it may interest you to know that the writer has now cut out the entire external carotid more than thirty times in the past five years, and it has also been done by Drs. Keen and Da Costa, in Philadelphia, by Drs. Brewer, Blake, W. Meyer, and Lilienthal, in New York, and by Dr. Nicolson, in Atlanta, Ga.; and from all these instances only three or four deaths have resulted from the operation, these being all in cachectic patients suffering from malignant growths—a rather unexpectedly low mortality. The operation, to be of use, must be performed on both sides, but not at one sitting, of course. And merely *ligating* upon both sides is quite useless, for within a few days pulsation will return from outside sources by anastomosis. It is the more radical measure of complete double *excision* which I am here discussing.

When the writer's paper on this topic was read before the New York Surgical Society, last spring, five patients were shown with starved and shrunken malignant growths—cancers and sarcomata—one of which dated back about five and a half, and one four years. It really seems to offer, as a method, when performed upon both sides, a clear ray of hope to the otherwise hopeless; for nothing can be more pathetic and desolate than the outlook for a patient with cancer of the tongue or floor of the mouth, for example, which has advanced beyond reach of the knife.

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2. N. Y. Medical Record, Dec. 17, 1892; N. Y. Medical News, May 20 and June 10, 1899.

ANALGESIA FROM SPINAL SUBARACHNOIDEAN COCAINIZATION.*

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Since the announcement of the first death from chloroform anesthesia the medical profession has been constantly looking for an anesthetic that might be administered without danger. Ether then was reinstated and heralded as a drug without danger, when given as an anesthetic. Shortly after its adoption several deaths occurred which were attributed to its use, and the mortality has been constantly increasing, especially within the last five years.

The combination of ether, alcohol and chloroform was submitted to the profession as a substitute for the individual drugs and the claim made that the danger would be less. The various mixtures, however, have met the same fate as the separate ingredients.

Nitrous oxid, the oldest of the general anesthetics, was again advanced, as was also ethyl bromid, but both were found impracticable, except for very short operations. Each of the anesthetics mentioned above has its special field wherein it may be used with less danger than any of the others, none of them answering the requirements for the performance of all surgical operations.

Local analgesia was used long before the general. The various means of producing it are: 1, by rendering the tissues ischemic; 2, frigid analgesia, being produced by ice and the various sprays; 3, nerve pressure analgesia; 4, dermal and subdermal analgesias—by the injections of solutions of cocain, eucain, nirvanin, etc.; 5, tissue-infiltration analgesia—as Schleich's and its modifications; 6, local application to mucous membranes of cocain, eucain, etc.; 7, injections of the various local anesthetics into the nerve trunks supplying the field of operation, and finally, 8, subarachnoidean spinal analgesia.

To-day we are to consider from a theoretical, as well as a practical standpoint, the last-named method, with the meager data now at our command.

Dr. J. Leonard Corning, in 1884 and 1885, demonstrated that analgesia could be produced by the submeningeal injection of cocain into the spinal canal. He also suggested a method of treatment for painful diseases of the spinal cord by this means, but the surgical application was not considered by him.

Bier, Aug. 16, 1898, demonstrated that analgesia of the extremities for surgical purposes could be produced by this means. He performed his first operation, a resection of a tubercular foot, by using 3 cubic centimeters of a .5 per cent. solution, containing ¼ grain of cocain. Following this he performed, within one week, six other operations by the same method. In one of his cases the analgesia involved the entire body, excepting the head and upper portion of the neck. This case was that of a boy 14 years of age; 7½ minims of a 1 per cent. solution, equivalent to 1/12 grain of cocain, was used. August 24, eight days after using it on the first patient, Bier decided to have the effects of the drug studied upon himself, and he was accordingly given

* Read before the Western Surgical and Gynecological Association, Minneapolis, Dec. 27-28, 1900.

an injection. The needle was inserted into the spinal canal, but did not accurately fit the syringe barrel, so that a considerable quantity of the cerebrospinal fluid was lost and a very indefinite amount of cocain was injected. There was no analgesic effect produced, but he suffered from severe cephalalgia, some nausea, considerable vertigo, etc., which symptoms persisted for nine days. Whether the unpleasant effects were due to the amount injected or to the loss of a large quantity of the cerebrospinal fluid, it is, of course, impossible to state. His associate, Dr. Hildebrand, was given a full injection of one-sixth of 1 grain the same day, and with him the analgesia was perfect and there were no untoward symptoms.

Bier concluded, notwithstanding the unsatisfactory result obtained on himself, that this mode of producing analgesia was applicable to a wide range of surgical procedures involving the extremities, and further, that it should be administered with extreme caution, the greatest care being exercised in the preparation of the solution, the syringe and the back of the patient. He further advocated that local analgesia of the tract of the needle be first produced.

Up to the present time there has been no great deviation from the technique outlined by Bier, excepting the range of dosage and the substitution of other materials for the cocain, as eucain, nirvanin, antipyrin, etc.

While the results of Bier were not very flattering, it encouraged others to take up this line of investigation, the most conspicuous in the field being Tuffier. The number of investigators has since become so large that to-day with only a moderate effort I am able to present 631 operations under spinal analgesia. The names of the operators are given in alphabetical order, without reference to priority, as in this way they are more accessible for reference. The successful cases will not be considered in detail. Of the 631 cases here reported perfect analgesia was obtained in 94, or 45 per cent; partial in 2.21 per cent., and in 3.32 per cent. it was a total failure. Of the deaths which were reported to have occurred as a result of this method, I fail to find one directly attributable to the cocain. Of those which occurred in Tuffier's clinic, in only one was it possible to associate death with the injection, and in that case marked cardiac lesions were found post-mortem. This one death has been reported in a number of articles as directly due to the cocain, but a close analysis of the details shows there is good ground for believing that the drug was in no way responsible for it.

M. Racoviceanu Pitesci, of Bucharest, states that he heard of two deaths from spinal injection occurring in Roumania, but he says they were not in his practice and as he fails to give the details, I have not included them in my list. In three of the 125 injections given in Pitesci's clinic the symptoms were spoken of as dangerous, but in none did they terminate fatally.

We will now consider: 1, the physiologic effect of the injection; 2, the dosage; 3, the rapidity of injection; 4, the constant and occasional symptoms produced; 5, the analgesia following, and 6, post-operative symptoms.

1. *The Physiologic Effect.*—Corning recognized the affinity of cocain for the sensory nerve fibers and therefore reasoned that the application of the drug to the spinal cord would produce analgesia over the area supplied by the spinal nerves so treated. That the effect is produced by the direct application of the cocain to the posterior roots and ganglia and not to the cord itself, is supported by the clinical observation that in a number of cases the analgesia is an ascending one, taking place in the trunk and neck before it has appeared in the extremities. If it were a sensory tract paralysis it should occur in the lower extremities first. The sense of contact is not affected; the reflexes are slightly altered—usually diminished; muscular sense and co-ordination are often affected, as after the injections the patients have considerable ataxia of gait; intestinal peristalsis and uterine contractions are rather stimulated then depressed, while sphincteric action of bladder, vagina and rectum are often completely abolished. The increased peristalsis, with sphincteric relaxation, accounts for the frequent defecations and less frequent urinations which take place during the course of the anesthesia. The above leads to the speculation: Can not reflex ileus be treated by this means?

2. *Dosage.*—The great majority of operators at the present time, who have adopted cocain analgesia, agree that the 2 per cent. solution is preferable, except in younger patients, where the 1 per cent., as advocated by Bainbridge, should be used. They also agree that the quantity of 2 per cent. solution injected should range from 7 to 20 minims in the adult, depending on the individual peculiarities of the patient, the location and probable duration of the operation, etc. Ten to 15 minims is the average amount required, it being seldom necessary to use more than 15, and except in hemorrhoidal and vaginal operations, less than 10. Tuffier has used 2/3 grain without unpleasant symptoms.

The method of preparation of the solution is of great importance, as cocain is a very unstable drug when in solution and exposed to the air. It will not tolerate boiling for sterilization. The solution should, of course, be freshly prepared at the time of operation, by adding sterile water to a definite quantity of the crystals, weighed amounts of which may be previously sterilized in waxed papers and kept ready for use. An excellent method is as follows: A strong solution of the hydrochlorate of cocain is prepared in distilled water, so that a certain amount will represent 3/10 of a grain. This is placed in sterilized glass tubes and the water evaporated in vacuo. The dried crystals left by evaporation are sterilized at a temperature of 180 F. and the tube sealed in the flame. A file-mark is placed at the top of the tube where it is to be broken off when ready for use and another file-mark represents the level to which exactly 15 minims of water will come. At the time of operation the top of the tube is broken off and cold sterile water added to the second file-mark, making exactly 15 minims of a 2 per cent. solution.

Glass ampullæ containing the solution have been prepared by certain manufacturers, by placing the crystals in sterile water, rapidly heating the solution a number of times to 180 F., and then sealing the tube. Last week we used one of these tubes that had been prepared four months previously by a Chicago instrument house. The result was ideal, showing the length of time which cocain may remain in solution without decomposition when kept in a sealed tube. If the solution is the least cloudy the cocain will be found to have decomposed. It can not be too strongly emphasized that the solution should be sterile to be free from danger.

The ordinary hypodermic syringe with a sliding attachment and the 3-inch needle, the latter having a lumen of 8/10 mm. and an external diameter of 1.1 mm. may be used. Special cases containing all the necessary instruments, etc., are now prepared by manufacturers. The syringe must be made of material that will permit

of boiling the entire instrument. The quantity of solution drawn into the syringe should exceed that which is to be used, as some may be needed to free the needle from blood in case there is difficulty in entering the canal. The set-screw governing the quantity should be placed before connection with the needle is made.

Before inserting the needle the skin may be frozen with ethyl chlorid and a puncture made with a scalpel, so that no infection might be carried from the skin along the tract of the needle. It is our custom to fill the needle with cocain solution before it is inserted, thus preventing the admission of blood into the lumen in transit through the tissues of the back.

The space between the fourth and fifth lumbar vertebræ ½ inch to the side of the median line is the point of election. In this position it will be seen that we are some distance below the conus medullaris and directly over the cauda equina. The patient is placed in a sitting position with the limbs extended on the table and the back curved as far forward as possible. Standing at the patient's left, the thumb is placed over the fourth lumbar process so that its tip extends 1/3 inch below the spinous process and the same distance to the right of the median line. The needle is then passed in, in a horizontal direction, just at the tip of the thumb. Occasionally the bone is encountered, when it will be necessary to change the direction of the needle downward. When the needle reaches the interspinous ligament there is a little additional resistance, which is suddenly overcome when it penetrates through that and into the spinal canal, this latter being demonstrated by the escape of cerebrospinal fluid. If the fluid does not escape the patient should be requested to strain or cough, which will often cause it to be forcibly ejected. In one case of deformed back and pelvis it was impossible for us to insert the needle into the canal. Dr. E. H. Lee had a similar experience, as did also Dr. La Place.

Tait and Caglieri, of San Francisco, have in three cases injected cocain solution into the subarachnoidean space between the sixth and seventh cervical vertebræ. Their results were good and they believe that there is no danger of traumatism to the cord in this situation, but the experiments of Masso and Aducco, who injected solutions of cocain into the fourth ventricle in certain of the lower animals showed that this procedure was invariably followed by almost immediate death, due to respiratory and cardiac failure.

These experiments argue against the safety of the high injections, which should certainly not be used until after thorough and careful investigation has been made.

3. *Rapidity of Injection.*—The fluid should be injected slowly, from forty to sixty seconds being consumed in the procedure. Goffe states that when the injection is sudden and forcible the analgesia will extend higher than when it is slowly given. This statement is denied by Marx. The solution should never be injected except when the cerebrospinal fluid is flowing from the needle. We do not consider it good practice to repeat the injection immediately or soon after in the same patient, although Marx has carried the analgesia for eight hours by repeated injections and has observed no untoward symptoms. His cases were all obstetric. If it is desired to continue the analgesia, a small quantity of chloroform or ether may be administered.

4. *Symptoms Produced by the Injection.*—One of the first to appear is a sense of heat passing over the entire body, and later thirst. From three to fifteen minutes after the injection, most frequently seven to eight, nausea and one or two attempts at vomiting occur. Sometimes the nausea continues for ten minutes, and there may be several efforts at emesis. Preceding the vomiting there is the usual pallor, increased frequency of the pulse, which, however, may be very slow, diminution of arterial tension and perspiration. In other words, we have all the symptoms which ordinarily accompany nausea from any reflex cause. Perspiration may be very profuse, as it is in all cases of cocain intoxication, but the same symptom has been noted after the injection of saline solution into the subarachnoidean space. The pulse may become scarcely perceptible at the wrist and the facial expression is often that of profound depression. These untoward symptoms usually last but a few minutes and then disappear. In several cases that have been reported, the symptom of collapse, which occurred a short time after injection, was very alarming. McDonald records one where the respiration went up to 60 or 80 a minute, cyanosis was marked and the patient became almost pulseless. Large doses of stimulants were necessary to revive him. We have noted in a number of cases that the more severe the operation the more rapidly have the symptoms of depression, due to the cocain, disappeared.

The capillary circulation, as a rule, remains good, even when the arterial tension is very low. Respiration has not been materially affected in any of our cases, but several authors have reported it as sighing in character. As stated above, McDonald observed a case where the respirations were increased to 60 or 80 per minute, with marked cyanosis.

The sphincter ani is frequently relaxed, even to the extent of allowing involuntary evacuations on the table. Occasionally the vesical sphincter is relaxed. The relaxation of the vagina and rectum, which is so common in cocain analgesia, would theoretically be of advantage in obstetric cases.

Various drugs, given hypodermically, have been recommended to counteract toxic symptoms, but probably the best are hyoscin hydrobromate, 1/200 grain, injected immediately after the cocain is administered, and nitroglycerin, 1/100 grain, given at the same time, or when nausea and vomiting first appear—Marx.

5. *The Analgesia.*—This first appears in from three to ten minutes after the injection, though it may be delayed to twenty, or even thirty minutes. Sometimes it is preceded by a short period of hyperesthesia involving different parts of the body.—Marx.

The analgesia almost always commences in the feet, but in rare instances is first noted as a band around the body extending downward on the fronts of the thighs. Still more rarely the analgesia is ascending from the level of injection, involving the thorax, the upper extremities, neck, face, and occasionally reaching to the scalp. It can be estimated that the analgesia will be perfect up to the costal arch and will involve all of the abdominal viscera. Amputations of the breast have been performed without pain, but the upper limit of the analgesic area rarely extends high enough for the performance of this operation.

The analgesia may be complete, partial, or entirely absent. Its duration is from twelve minutes to three hours, or even more. In one of Marx' cases it persisted five hours, but the average in our experience has been from twenty-seven minutes to one and one-half hours. During this period, particularly when the operation is a laparotomy, the tension of the muscles sometimes interferes with work, though not to a sufficient degree

to seriously impede the continuance of the most difficult operation.

At first the use of the drug in spinal analgesia was confined to persons in middle life, but since then it has been clearly demonstrated that it may be administered with safety to patients of all ages, from infancy (Bainbridge, New York) to old age (Lyman, Eau Claire).

6. *Post-Operative Symptoms.*—When the operation has been completed and the patient returned to his room he usually complains of headache, which is sometimes very severe and lasts for several days, but the rule is that it subsides in from twelve to twenty-four hours. We have not observed emesis after the patient was removed from the table, but prolonged nausea and vomiting have been reported. (Barbat, two cases; McMonagle.)

Vertigo is occasionally present and sometimes a marked ataxia in gait. In rare cases the ataxia has extended to the upper extremities. It is extremely annoying to the patient and may persist five or six days.

The pulse, which may have been very rapid and weak during the course of the operation, soon returns to normal. Temperature usually occurs the evening following the injection. It is often preceded by a chilly sensation, rarely by a rigor. It may reach 104 F., or even 106.8 F.—Fowler. In our experience it has ranged from 99.5 to 102 F. The temperature is a spinal one and not in any way connected with the wound. It is probably due to irritation of the thermic center in the cervical portion of the cord, resembling, as regards its causation, the marked thermic elevation seen in spinal traumatism. The rule is that it disappears entirely by the following morning and does not recur, though in some instances it has been observed to persist three or four days.

The patient's general condition on the following day, even in laparotomies and other major operations, has been uniformly better than when ether or chloroform was used, and the tissue reaction to the traumatism has been less marked.

Various mental disturbances have been reported by different authors to have followed spinal injections of cocain. In the case reported by McDonald, previously cited, coma occurred; Hartmann and Fowler have both noted delirium. Exhaustion and prostration lasting one or two days have been reported by Severeanu, of Bucharest. The mental exaltation which so frequently follows use of cocain is often observed.

Stiffness of the neck and muscles of the back, various disturbances of vision, tonic contractions of different sets of muscles, pains along the spine, loss of heat and cold sensation in the analgesic parts, etc., have all been noted during the post-analgesic period.

Most of these symptoms also occur after spinal injections of eucain, which would lead us to believe that they are due to variations of tension in the spinal canal, or to irritation, rather than to the toxic effects of the drugs.

Goldan reports that he has observed pneumonia following spinal injections, due to the exposure from which the patient suffers while being prepared for the injection, and exposure during the operation. He argues from this that the so-called ether pneumonias are not always due to ether, but rather to the bodily exposure during the preparation for the operation.

7. *Failure to Obtain Analgesia.*—We will quote the statements of a number of operators as to the causes of failure:

Bogart believes that his 28 per cent. of failures were explainable by faulty technique or selection of cases. Irregularity in the action of the drug in different cases and at different times in the same case is beautifully illustrated in one reported by Bergmann, where acute cocainism followed a very small injection of the drug several days after a much larger dose had been given without untoward symptoms. Cartledge, of Louisville, had no failures in his cases and states that many of his patients were in better condition at the end of the operation than if other anesthetics had been used. Fowler had three failures, all of which were due to his inability to secure free flow of cerebrospinal fluid. He either obtained none at all or only a small quantity of very turbid fluid.

Goldan attributes three of his failures to a too large needle or a too small quantity of solution injected, but in a later paper he reports three additional failures for which he was unable to satisfactorily account. Matas attributes too small a dose as the cause of failure.

The uniformly good results of some operators contrast strongly with the uniformly bad results of others. The former is represented by the ideal experience of Morton, San Francisco, who in 31 cases had perfect analgesia in all and no serious untoward effects. The other class, larger in number, is composed of operators who have had a small number of cases in which the percentage of failures has ranged from 7 to 100. This great difference in results I can but believe is due to variations in technique.

Chronic alcoholics seem to be unfavorably affected by the drug, in some a failure of analgesia occurred—Coelho—and in others there was pronounced intoxication—McDonald.

The idiosyncrasy to cocain is more frequent than to any other drug and has been cited to explain the absence of analgesia noted by many authors—Racoviceanu Petesci, Alessiu, Pousson, Chavanaz and Coelho. The same reason has been given for the severe intoxication observed.

Substitutes for cocain in spinal analgesia are: 1. Eucain B was used in our fifth case, with only a partial analgesic effect. The solution was 2.5 per cent. Keen reports one case of perfect analgesia in which he used 1 c.c. of a 2 per cent. solution. The general opinion is that eucain can in no way take the place of cocain in this work, but certain authors advocate and use it exclusively. The unpleasant symptoms are usually the same as when cocain is used and the analgesia not nearly so satisfactory—Engelman. 2. Antipyrin was used in one case by Fowler, who injected 30 minims of a 2 per cent. solution; analgesia occurred to the level with the nipple in five minutes. All of the disagreeable symptoms were present, but were later in manifesting themselves than when cocain was used. Weber, of Chicago, uses a weak solution of antipyrin in combination with cocain. Combination of cocain and morphin has been used—Schleich's solution—by Matas, without, however, any marked change in the result. Marx observed in one case intoxication after using 1/6 grain of morphin in combination with the cocain.

One case of death is reported from pulmonary embolism nine days after the operation. It is not stated that the cause of death was verified by post-mortem examination.

Gumprecht's statistics of 17 deaths from lumbar puncture performed for diagnostic purposes in the presence of severe cerebrospinal lesions, have no value in guiding us as to the practicability of cocain analgesia.

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The persistent false statements in regard to Tuffier's deaths would be amusing if it were not that they so outrageously falsified his experience.

OPERATOR.	ANALGESIA. No of cases.	Successful.	Partial Success.	Failures.
Anderson, C. H., Mississippi Valley Med. Association, Oct. 9-11, 1900	6	6	....	....
Bogart, J. B., N. Y. Academy Medicine	25	18	....	7
Boldt, H. J., N. Y. Med. Jour., Nov. 3, 1900	1	....	....	1
Bainbridge, Medical Record, Dec. 22, 1900	12	11	....	1
Cartledge, A. M., Southern Surgical and Gynecological Association, Nov. 13, 1900	8	8	....	....
Coe, H. C., N. Y. Acad. Med., Oct. 25, 1900	1	1	....	....
Dudley, A. P., N. Y. Acad. Med., Oct. 25, 1900	6	6	....	....
Fowler, Medical Record, Dec. 22, 1900	81	73	8	....
Goldan, S. O., N. Y. Acad. Med., Oct. 25, 1900; N. Y. Med. Jour., Dec. 22, 1900	31	25	2	4
Grandin, E. H., Medical Record, Dec. 22, 1900	3	....	....	3
Gibney, V. P., N. Y. Med. Rec., Dec. 22, 1900	5	5	....	....
Hartmann, F. S., Cook Co. Hosp., Chicago	1	*1	....	....
Lee, E. W., Phila. Med. Jour., Nov. 3, 1900	7	7	....	....
Lyman, J. Y. R., Inter County Med. Society, Nov., 1900—Eau Claire, Wis.	10	10	....	....
La Place E., Phila. Med. Jour., Nov. 3, 1900	1	1	....	....
Marx, S., Medical Record, Oct. 6, 1900	23	23	....	....
Matas, R., Phila. Med. Jour., Nov. 3, 1900	9	9	....	....
McDonald, W. G., Southern Surgical and Gynecological Assn., Atlanta, Nov. 3, 1900	1	....	1	....
MacMonagle, B., Southern Surgical and Gynecological Association, Atlanta, Nov. 3, 1900	2	**2	....	....
Mallet, E. P., Southern Surgical and Gynecological Association, Atlanta, Nov. 3 ,1900	2	1	1	....
Morton, A. W., Pacific Med. Jour., Nov. and Dec., 1900	31	31	....	....
Murphy, J. B., Chicago Clinic, Nov., 1900	40	38	1	1
Neff, J. M., Personal Correspondence	2	2	....	....
Kammarer, N. Y. Med. Record, Dec. 22, 1900	40	40	....	....
Pitesci Racoviceanu, JOURNAL A. M. A., Oct. 20, 1900	125	121	....	4
Podesta, B., Semana Medica, Buena Ayres, Aug. 23, 1900	21	21	....	....
Rodman, W. L., Southern Surgical and Gyn. Assn., Atlanta, Nov. 13, 1900	3	3	....	....
Weber, C., Cook County Hosp., Chicago	3	3	....	....
Tuffier, Semaine Medicale, May 16, 1900	130	130	....	....
Total	631	596	14	21

* Eucain.
** Dr. Barbat.

RHEUMATIC DISEASES OF THE EYE.

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That the eye should be subject to rheumatic disease does not seem strange when we remember that its principal protective coat is a dense fibrous structure, the sclerotic; that it contains within it the delicate muscular fibers of the iris and ciliary body, and externally the muscular bands which move it about; that it is very vascular, one coat alone, the choroid, being largely made up of blood-vessels. The wonder is that the eye does not suffer more from a disease as prevalent as rheumatism and one which shows such a predilection for fibrous, muscular, and vascular structures.

It is not the object of this paper to discuss the subject of rheumatism in general. Suffice it to say that many observers believe it to be, like gout, caused by uric acid, a product of inefficient proteid metabolism; others by lactic acid, a fermentation product of the hydrocarbons. The researches of Singer, Achalme, Thirolox and Schüler would lead us to consider it to be a microbic disease. Reinhard believes the throat to be the common infection atrium.

Neither the eyeball nor its appendages are often affected by articular rheumatism. Iritis rarely occurs with it, but cases of conjunctival congestion without mucopurulent discharge have been noticed. We are compelled, however, to recognize the use of the term "rheumatism" as applied to an extensive group of symptoms which are probably dependent on the same causes with articular rheumatism. Sudden exposure to cold and overmuscular exertion are the principal exciting causes. Some of the diseases of the eye ascribed to the chronic type of rheumatism are iritis, episcleritis, scleritis, keratitis, orbital cellulitis, optic neuritis, choroiditis, ocular palsy, glaucoma, and opacity of the vitreous. The most important of these in point of frequency is iritis.

It has been computed by various writers of authority that iritis furnishes from 2.3 to 4 per cent. of all ophthalmic cases, and that syphilis and rheumatism are causative factors of this disease in 90 per cent. in the proportion of syphilis 60 and rheumatism 30. It was formerly taught that the etiology of iritis could be determined by simple inspection, and it is true that in many cases the papules or condylomata characteristic of syphilitic iritis can be made out.

In the absence of these masses in the iris, however, the diagnosis depends on the history of the individual case. In the absence of a syphilitic history or signs, we may find a personal or family history of acute or chronic articular rheumatism, symptoms of lumbago, neuralgia, sciatica, torticollis or pains in the articulations or fascia or sensitiveness to changes in the weather. Many cases are subject to relapses of iritis in spring and winter, seasons of the year when rheumatic affections are most prevalent. Some cases of iritis alternate with rheumatism in other parts and some recur with the swelling of the joints.

I will briefly report three cases representing, respectively, iritis, episcleritis, and scleritis of undoubted rheumatic origin.

A woman, aged 25, came to the clinic at the Illinois Eye and Ear Infirmary, in February, 1899. She gave a history of chronic articular rheumatism. Her father was a chronic rheumatic. A diagnosis of rheumatic iritis was made. There was present the typical sign of iritis: ciliary injection, pain in the temple, slight adhesions of the iris to the lens capsule, which yielded to atropin. No nodules were present in the iris. No history nor signs of syphilis, either inherited or acquired were evident.

The patient made a rapid recovery under salicylates internally and atropin in the eye and hot applications. She was free from trouble until last April, when she presented herself again after having suffered pain in the eye for two weeks. The same treatment was continued and improvement again occurred until the early part of this month, then, with a sudden change in the weather, came a relapse of the rheumatism and also a violent pain in the eye. This gradually yielded to hot baths and pilocarpin and leeches applied to the temple; but the exudate from the iris was more abundant and plastic, and adhesions more numerous and permanent.

Next in frequency occurs a superficial form of scleritis, episcleritis, which consists of a circumscribed inflammatory nodule, generally on the temporal side. It is not movable over the sclera, but firmly attached and of a reddish-violet color. This condition can never be looked on as merely a local disease, but must be regarded as the manifestation in the eye of some systemic derangement. The large percentage, if not all of them, are associated with the rheumatic diathesis.

A case illustrating this condition was recently under treatment at the Chicago Eye, Ear, Nose and Throat College. The patient, a man aged 40, had suffered from

articular rheumatism for many years. He had had at least five attacks of episcleritis, and each had left small scleral scars with conjunctiva attached. There was a general chronic nodular condition of the sclera a few millimeters from the corneal margin. Atropin and massage had been used, and salicylates internally, but local blood-letting with the artificial leech gave most relief.

The most serious, but fortunately rare, rheumatic affection of the eye is deep scleritis. Here the circumcorneal congestion is more general, showing extensive bluish-red discoloration. It is a chronic disease and destructive to vision by the formation of deposits in the cornea, and staphyloma of the sclera. I showed a case of this type before the Chicago Ophthalmological Society last December. It was that of a young woman of 29, with a history of hip-joint disease at 3 years of age. Since that time her general health had always been good with the exception of rheumatic pains in the joints, always aggravated during changes in the weather. The family history was negative, and there were no evidences of syphilis, except the interstitial character of the corneal deposit. There was violent scleral congestion with triangular corneal opacities, which the magnified cornea showed to be quite vascular. This condition had existed over a year. A period of five weeks was the longest without a relapse. She was treated with potassium iodid, salicylates, salines, and mercury by inunction; locally with atropin, and hot applications and massage. The iris was slightly involved. In this case again leeches gave instant relief during the acute exacerbations.

I have selected these three cases because they represent, in the first two, the most common rheumatic eye disturbances, and the third the most serious in its consequences. Note particularly the history of many relapses; in all a positive rheumatic condition, in one also a family history of it. The case of iritis yielded best to treatment, but so far is not permanent. The two scleral cases are hardly influenced at all except by heat and local blood-letting.

OVULATION AND MENSTRUATION NOT INTERDEPENDENT FUNCTIONS.*

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From one of the most popular text-books[1] on midwifery in our medical colleges, I quote the following: "The intimate connection between ovulation and menstruation is now admitted by most physiologists, and it is held that the determining cause of the discharge is the periodic maturation of the Graafian follicles, . . . and when the ovaries are removed by operation, menstruation does not take place." One of our latest physiologies, also popular as a text-book[2] in our medical colleges, states the following: "Women do not menstruate when both ovaries have been removed by operation. Some instances have been recently recorded, indeed, of a sanguineous discharge, occurring periodically from the vagina after both ovaries have been removed for disease; and it has been inferred from this that menstruation is a function independent from the ovaries, but this evidence is not conclusive."

Most of us have been educated along the line of the ovula theory of menstruation, and probably most physicians to-day believe that ovulation and menstruation are one and the same thing, or at least, duplicate features of a single function. Another view, claiming a respectable and growing minority, divides the thought of the medical profession, and these views are fairly set forth in Gould's "American Year-Book." In an article by Hirst and Dorland, we read: "The divergent views are, first, that ovulation occurs at each menstrual period, and that the two processes are due to the same active cause. The other view is, that ovulation and menstruation are independent of each other, and are due to independent stimuli, and are coincident only by accident."

Since the days of Alexander's "Philosophy of Menstruation," Hamburg, 1841, followed by Grafft, Berlin, 1842, revised and improved by Raciborski, "Habit of Menstruation." Paris, 1868, many others have duplicated their noble efforts, and a clearer and truer understanding and comprehension of the functions of ovulation and menstruation have been gradually introduced into medical thought and literature, so that now many physiologists and gynecologists are concurring in the theory that ovulation and menstruation are naturally coincident, usually concurrent, exceptionally, independent functions. Let us consider this subject from three different standpoints.

1. *Ovulation without Menstruation.*—In Kirke's Physiology,[2] we read: "Cases are known where ova have been discharged in amenorrheic women. It must, therefore, be admitted that menstruation is not dependent on the maturation and discharge of ova." This statement is in harmony with the frequent observations of many gynecologists. Frequently mothers consult their physicians in regard to their daughters, in age ranging from 14 to 18, well-developed girls, who are having regular periodic ovarian disturbances, as regular and complete, minus the menstrual flow, as their mothers did. Perhaps this does not prove that these ovarian disturbances were ovulation; yet had these symptoms been attended with the customary discharge, ovulation would have no longer been considered hypothetical. While we have in the young, substantial proof as to when the menstrual flow began, we have no substantial proof as to when ovulation began.

We have had many patients who have menstruated for years and suddenly became amenorrheic, yet monthly had their regular periodic ovarian disturbances, less the external manifestations, and afterward when the flow reappeared it was when they were having these periodic attacks, suggesting at least that the ovaries had been performing their functions, though the uterus had failed to respond with its associated function.

In the year 1881, a young lady came under my care, who at the age of 21 attended the National Centennial, at Philadelphia, and was menstruating at that time. She took cold; the catamenia ceased and she saw no more of it for five successive years, though she experienced for about a year her regular, periodic ovarian disturbances, until gradually they ceased with her failing health. During the fifth year and after about six months' treatment, she noticed the return of the regular ovulation symptoms, and after three or four months more the regular menstrual flow appeared.

During a recent visit to Florida I was consulted by a well-developed, hearty young lady of 18 years, who gave the following history of herself: "About five years ago I began to have bad feelings in my head, back and sides, reaching through the bowels, which I could not account for. They seemed to come on about every four

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weeks, lasting two or three days each time and seemed always the same. Latterly, these spells have seemed worse. When I have taken medicine for them it has done me no good, and I have become anxious about my health." Recognizing the usual symptoms of menstrual disturbance, I asked her if she thought these pains were connected with her menstruation. She replied: "I never menstruated, but feel as other girls tell me they feel when they are sick, and I would like to know why I do not menstruate." A day having been appointed, another physician and myself examined her, when we found a complete vaginal atresia. By manual exploration through the bladder and rectum we discovered a rudimentary uterus, but not a vestige of a vagina. The clitoris and majora were intact, but no evidence of hymen. All other parts were normal. Considering her health and womanly development, what did these regular periodic symptoms signify but ovulation? Another day was appointed, when Dr. Bishop, of Sandford, assisted, accompanied with a surgeon, and while the young lady was under the anesthesia, the flesh corresponding to the place and size of the natural hymen, and to the thickness of blotting-paper was dissected off in pursuit of a vagina, but no vagina was found. There were two little holes, bilateral, about three-fourths of an inch apart, disclosing two passages about the size of an ordinary knitting needle and extending upward about four inches; surrounding these the tissues were dense but healthy.

"That ovulation may and does occur apart from menstruation," says Dr. Martin, in his physiology and histology, quoted from Hirst,[4] "seems to be proved by such cases as that of Oldham. In that instance the ovaries had descended into the labia majora, and every three or four weeks one or both swelled and became tender. The uterus and vagina were absent."

One of the most frequent and familiar symptoms to a gynecologist, is swelling and tenderness over the ovaries, discovered on digital examination from one to three days previous to the menstrual flow, and a like digital examination, showing less swelling and tenderness, some time before or soon after the flow has begun, indicating that the ovarian changes and constitutional disturbances may be independent of menstruation in these cases as in the cases above cited, where, in the young, the ovaries had matured faster than the uterus and had entered their functional mission before the uterus was ready to express, by the usual sanguineous discharge, its readiness to co-operate in this usually associated phenomenon. The same is true also in the other above-cited cases of amenorrhea where there were the usual ovarian symptoms present, but the menstrual flow absent.

When we consider ovulation in its simple and independent character, as exhibited in nature's scaly and feathered tribes, which is unattended with a menstrual flow, we are compelled to admit that ovulation in the mammiferous, though periodic, is as natural as in the fish or fowl; and the period is not dependent on the moon, or contact with a male, or on genitalia congestion, or on the menstrual flow, but on the nature of things. The period of ovulation being as natural as the interval, we are compelled to admit that ovulation is the primary and initial organic step in nature's progressive effort to procreate, and that ovulation, therefore, being primary, initial and independent, the uterine changes, blood discharge, venous congestion, heat, etc., usually concurrent phenomena, are necessarily only secondary; and while the uterine changes are secondary, usually they are intimately associated with ovarian changes, especially in the attainment of nature's purpose in an ultimate end of ovulation, namely, procreation. Yet in view of the many incontrovertible and incontestable facts reaching through many years of painstaking study and creditable observation in different parts of the land and in different lands, we are compelled to believe, that exceptionally, and by no means solitary, there may be ovulation and even conception without menstruation. Let us pursue this general subject from another standpoint.

2. *Menstruation without Ovulation.*—In the foregoing discussion we have cited numerous authors and clinical cases, showing that ovulation and menstruation are coincident, but not interdependent; that ovulation is the primary and initial step in nature's process of recreation, called menstruation, and that the menstrual flow is the secondary act in the same process, usually attendant, but exceptionally absent and may occur independent of ovulation.

A glance at the anatomy of the blood and nerve supply of the ovaries and uterus will aid us in the discussion of the functions. The arterial supply of the ovaries is from the ovarian branch of the aorta. The arteries of the uterus are the uterine and a branch from the ovarian. The uterine artery is a branch of the internal iliac, supplying the walls and viscera of the pelvis and generative organs except the ovaries, so that the blood-supply is quite out of proportion in the two organs, and is mainly from different sources. The nerve-supply to these organs is abundant and from the sympathetic system. The nerves of the ovaries are from the spermatic or ovarian plexus. The nerves of the uterus are from the inferior hypogastric, some from the ovarian, and from the third and fourth sacral nerves. The uterine nerves are not distributed through the ovaries, but to the uterus, vagina and bladder.

The blood and nerve supply being mainly from different sources, suggests the probability that there might be an ovarian activity without a corresponding uterine activity and vice versa; ovulation without menstruation or menstruation without ovulation.

The menstrual flow, beyond reasonable controversy, is produced from the mucous membrane lining the uterus, and is entirely independent of rupture of the Graafian follicles. Exactly how it is produced is still a mooted question. Some hold that it is a natural result of a periodic vascular congestion, throwing off the membranes and leaving the surface raw and bloody. Others say it is produced by exudation from open-mouthed blood-vessels, which terminate in the mucous membrane. Still others hold that it is produced by turgescence and vascular osmosis. Of still less value are the theories that the blood is produced by the presence of the ova in the uterus or by congestion of the Fallopian tubes; from ovarian activities and rupture of the Graafian follicles, or the theory of monthly, periodic uterine muscular contraction forcing the flow. But it is important in this anatomical reference to bear in mind that the blood and nerve supply are essentially from different sources.

Now let us return to the consideration of the menstrual function. Again, we quote from Kirke's "Physiology," "Though menstruation does not appear to depend on the discharge of the ova, yet the presence of ovaries seems necessary for the performance of the function." The statement that menstruation does not appear to depend on the discharge of the ova, appears to us more in accord with clinical observation than

either theories, namely, of Bischoff and Pflugar, on the one hand, that "ovulation and menstruation are due to the same active cause, the one being the starting-point of the other,"[5] and the theory of the extreme party, on the other hand, represented by Biegel, quoted by Professor Schroeder,[6] of Bavaria, that "ovulation and menstruation are completely independent of one another, and that the discharge of the ovum may take place at any time whatever, even in children, but that menstruation is nothing but the periodical returning demand of the female genital organs for sexual gratification." Professor Schroeder's own views are more in accord with recent developments, namely, "That it is clear, that the two phenomena have no necessary and absolute connection, and that the occurrence of one without the other is quite conceivable."

In physiological menopause does ovulation or the menstrual flow cease first? Do they cease together? Do the irregularities of the menstrual flow, or the frequent and prolonged hemorrhages during the change have to do with ovulation? Physicians see many cases where menstruation continues long after the age of child-bearing, and, we conclude, long after the age of ovulation. I had a patient who menstruated once in about three months at the age of 73. I have the assurance of one who menstruated regularly between 75 and 80; but we hear of no pregnancies so late in life. However, Sarah, Mrs. Abraham, bore her husband a son at the age of 100, and why not, if ovulation continues, other things being equal?

Painstaking observation of surgical cases for the last twenty years seems to prove conclusively that menstruation has continued periodically and regularly after both ovaries have been removed. This is corroborated by the majority of the latest works on surgery and gynecology, though denied by such men as Dorant, Baker, and Dormer Harris,[2] who say: "Some instances have been recently recorded, indeed, of a sanguineous discharge, occurring periodically from the vagina after both ovaries have been previously removed by disease; and it has been inferred from this that menstruation is a function independent of the ovary; but this evidence is not conclusive. A lady came under my care, who some months previous had a double oophorectomy performed; she told me that her menstrual periods had been as regular after as before the operation. Another young lady had a like operation and after three months began to menstruate regularly and continued for three years, when hysterectomy was performed. I attended her in both operations. Gill Wylie[5] reports Lawson Tait as saying: "Women sometimes menstruate regularly when both tubes and both ovaries have been removed. I know of one who has missed not more than two menstruations in two years and a half, although I have both of her tubes and ovaries in a jar." I have, at present, one under my care who, two years ago, had both ovaries removed and has menstruated as regularly since as before.

Again, in considering the independent action of the functions of ovulation and menstruation, let us look at it from still another standpoint.

3. *Conception without Menstruation.*—If there be truth in the subject of this paper, namely, that the two named functions of generation in the female are not interdependent; if anatomy and physiology have so provided; and if surgery, clinical history and painstaking observations sustain this truth, then we can conceive of the possibility of even conception without menstruation, which, if it should occur, would prove an independence of the functions of the ovaries and uterus.

Dr. Jaggard[7] says: "Pregnancy may occur in the absence of menstruation." He further says: "There are also authentic cases on record of pregnancy after the climacteric." I attended a gray-haired lady in confinement at the age of 50 and past, who supposed she had passed the change of life long before. Dr. Hodge[7] cites a case coming under his own observation of a woman who became pregnant seven months after the last appearance of menstruation.

Several cases have occurred in my practice of women becoming pregnant during lactation and before the reappearance of the menses. A young girl may become pregnant before she menstruates. "The Hindoos[11] have a custom that their girls shall be obliged to marry before the establishment of the menses, because even menstruation occurring in a girl who has not had the opportunity to conceive is regarded as infanticide."[8] Medical missionaries are conversant with this phenomena in tropical countries where girls often marry before the age of 10 and sometimes children are born before their teens. Kussmaul reports a case of one who became pregnant at the age of 8 and bore a child nine months later.[9] Fox,[10] of Philadelphia, speaks of attending a girl in confinement at the age of 11 years and 4 months. The Mohammedans in Syria and Asia Minor, among whom I lived for several years, often marry their daughters before the catamenia and it was often said that a child was born before the menstruation. Menstruation is seen, therefore, to be no integral part of ovulation, nor an absolute factor of conception, though usually concurrent and attendant.

There may be ovulation without menstruation; menstruation without ovulation; and conception without menstruation.

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DYSMENORRHEA.*

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That group of phenomena comprehended under the term dysmenorrhea is as interesting as it is common in the experience of every practitioner of medicine, nor is the interest lessened by the reflection that on the successful management of the case in which such symptoms occur, often depends the reputation of the physician concerned, among a large number of patrons. That the problem is frequently a difficult one will hardly be gainsaid. It can not, therefore, be time misspent if we devote the few minutes at our disposal to the study of the etiology and rational treatment of the abnormal conditions underlying these morbid manifestations. Recent investigations have thrown light on the innervation of the ovary and the uterus, respectively, which greatly fa-

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cilitate our understanding of the symptoms, especially in organs remote from the genital sphere. The nerves of the ovary originate from the plexus renalis and lower section of the plexus aorticus seu spermaticus, and belong almost entirely to the sympathetic system. They obtain, however, spinal filaments by means of communicating branches of the nervus spermaticus externus, which owes its origin to a branch of the nervus genitofemoralis originating from the plexus lumbalis; it joins the plexus spermaticus.

According to the researches of Otto V. Herff,[1] there exists in the ovarian stroma a very dense nervous plexus which is mainly designed to supply all vessels, including those of the follicles. Nerves also attain to the follicular epithelium, lying on the smallest follicles, but sending filaments into the largest ones, which radiate into the membrana granulosa and end here. Moreover, here and there filaments attain to the germinal epithelium as well as to the muscular cells in the hilus and to the inner vascular layer. Devos[2] finds that the plexus surrounding the follicles has no connection with the vascular nerves. He considers, therefore, the follicular nerves as centripetal and believes that their stimulation has influence on the entire nervous network of the uterovaginal domain. The result of the studies of Winterhalter are embraced in the two propositions: 1. The ovarian vessels are surrounded with perivascular plexuses. 2. In the zona vasculosa lies a ganglion consisting of cells of the character of the sympathetic ganglion-cells, and its processes surround the vessels for the greater part in numerous convolutions.

Bearing in mind that the physiologic function of the ganglion-cells is to preserve and accumulate stimuli coming to them for a considerable time, and to discharge these stimuli directly or indirectly through the intervention of other cells as soon as the stimulative height has overstepped a certain limit, we are logically forced to the assumption that menstruation is a reflex process starting from the ovaries.

In the language of Macricke, "the excitations which the Graafian follicle exerts on the nerves surrounding it, partly by its growth, partly by the chemical processes occurring in it at the time of sexual maturity, are deposited and accumulated through the instrumentality of these nerves in the spinal marrow or in the ganglia of Frankenhauser and Winterhalter; perhaps in others also.

"When the stimuli have thus attained a certain height a discharge follows in the form of a powerful congestion of the blood in the genitalia."

The nerves of the uterus are derived in part from the plexus hypogastricus and in part from the sacral nerves. The hypogastric plexus lies on each side, immediately on the promontory about 3 centimeters beneath the bifurcation of the aorta, and forms a combination of the plexus spermaticus and renalis. From the two last-named plexuses fibers go upward to the celiac plexus. The most important roots of the plexus coeliacus are the nervi splanchni and the abdominal branches of the pneumogastric—chiefly the right. It also receives contributions from the phrenic nerves. Herlitzka, in his valuable contribution to the study of innervation of the uterus, says: "In the tissue of the uterus we find, besides the plexus belonging to the vessels, two other nervous elements entirely different from one another in structure and derivation. 1. A network consisting of ramified cells whose processes anastomose with one another in a manifold manner. It stands in communication with strong bundles consisting of pale fibers of Remak. These elements probably are derived from the sympathetic system. These cells are not to be considered as ganglion-cells; it may rather be assumed that to them belongs simply the conduction of the nervous excitations. 2. Some myelin-containing fibers which exhibit the same properties as all nerves derived from the cerebrospinal axis. These fibers end with extensive ramifications of a characteristic appearance, and are distributed over wide zones of uterine tissue without, however, entering into communication with the elements of the proper network or with the fiber-cells of the muscles."

These anatomical descriptions plainly show the source and extent of the distribution of the cerebrospinal and sympathetic nerves to the pelvic organs, at the same time demonstrating the communication between them. Another anatomical feature must be kept in view, namely, that in the sympathetic paths, vasomotory, motory, secretory and sensory fibers run; and such cerebral nerves as the pneumogastric and trifacial maintain communication with sympathetic ganglia. We shall not be at a loss, therefore, to explain the various morbid phenomena of dysmenorrhea, however incomprehensible they may appear to the student of medicine who ignores anatomical research.

Women who enjoy excellent health at the time of menstruation feel a change in their physical condition, as the very term they use denotes—they are "unwell." Independently of an increased susceptibility of the nervous system to external impressions, they may complain of certain local annoyances, as heaviness, or fulness in the region of the pelvis, a sensation of pulling in the sacrum, a frequent desire to void urine, etc. Dr. Emmet thus expresses it: "Every woman, even in health, will experience some degree of discomfort at the menstrual period. That she should be absolutely free from pain and suffer no inconvenience at the time is an abnormal condition." I can hardly follow the eminent gynecologist here and accept these views without qualification. That, as a rule, healthy women have more or less discomfort when they menstruate is true, but it is equally true that we by no means infrequently meet such women who say that menstruation takes place absolutely without pain. If women in good health, therefore, complain of discomfort in menstruation, it need not excite surprise if women affected with the various pathologic conditions underlying dysmenorrhea present many and varied phenomena. In most cases the complaints begin long before the appearance of the period, and reach their highest point in intensity during it, then die away slowly and by degrees. Sometimes the pains come on shortly before the menstrual flow, and promptly cease when this begins. Others have the pains only during the flow, still others, before and during the period. Some have only a dull burning or gnawing sensation in the pelvis; in the case of others the pains radiate in a wide circle, and are perceived at distant parts of the back. In some the pain is more or less continuous, while in others exacerbations alternate with remissions. In many the pains are perceived and described as plain uterine contractions. To these symptoms are often added great irritability of the bladder; the patient has an urgent desire to pass urine every few minutes, and the results of her efforts in this direction are only a few drops. Disturbances of the digestive tract are frequently present; constipation alternates with diarrhea, the latter symptom being the more common. Heartburn, nausea and vomiting are as frequent as they are annoying. Attacks

1 Zeitschrift f. Geb. u. Gyn., Bd. xxiv. Hft. 2.
2 Jahresberichte von Frommeil, 1894.

of severe hemicrania, which may be present for days, give the patient no rest. Cardiac palpitations, cold sweats, and attacks of syncope are manifestations evoked from the circulatory system. If no help comes, her condition may steadily and progressively depreciate. The pains become constant; the fear of the next menstruation, which hangs like the sword of Damocles over the unfortunate woman, the exhaustion that ensues from the pain during the period, the inability to enjoy life and perform properly its duties, and the disappointment at the failure of conception induce sooner or later a state of invalidism distressing beyond description. The exasperating character of the pains and the attendant depression of spirits often impel the unhappy sufferer to call to her aid a force as potent as it is destructive, in the end, to mind and body. She becomes addicted to the use of narcotics, especially morphin; it is certainly correct that dysmenorrhea furnishes a large quota to the contingent of morphin habitués.

With reference to the causes of dysmenorrhea, most modern writers refer the phenomena in question to diseases of the uterus, the tubes, the ovaries, the peritoneal covering of these organs as well as the pelvic connective tissue. In the preponderating majority of cases the morbid affections which are the etiologic factors are inflammatory processes. Hence the classification: 1. causes originating in the uterus, and 2, causes which are extrauterine. This extension of the term dysmenorrhea so as to make it include all the painful symptoms evoked by inflammatory affections of the adnexa and their serous investments is a great mistake, an egregious blunder, and leads to confusion of thought.

Inflammatory affections of these organs, in consequence of the fluxion of menstruation, do at times undergo changes for the worst, but on the other hand I have been repeatedly struck by the fact that the symptoms improved decidedly during the flow. Moreover, in tubal or ovarian disease the dysmenorrhea is a mere incident and not the all-important determining factor in the clinical picture. The proper type of dysmenorrhea is the retention, mechanically, of menstrual blood, as it is observed in its most pronounced form, in cases of occlusion of the genital tract consequent on arrest of development. Similarly its symptoms are manifested, although not so clearly or unequivocally in all forms of narrowing of the cervical canal as in stenosis of the external os, flexion consequent on pathological anteflexion, flexion occurring in retroflexion, and in the narrowing caused by tumors, especially myomata. It is impossible to state in general terms how excessive the narrowing must be in order to cause retention of the uterine contents. Whilst coagula or shreds of the uterine mucous membrane are able to pass through a quite wide cervix only with difficulty, on the other hand, fluid blood makes its way through a very narrow cervix with comparative ease. But this is only true when the blood is secreted by the uterine mucosa slowly. In these cases there is always a mechanical distention of the uterine cavity, to which the muscular tissues of the body respond with contractions causing labor-like pains or uterine colic. The pains are paroxysmal and at times attain a high degree of intensity. When the flow becomes free they may intermit, but in other cases they persist during the entire time of menstruation.

The great apostle of the mechanical explanation of dysmenorrhea was that rare genius to whose labors gynecological surgery owes an unpayable debt, J. Marion Sims. It has been attacked, it is true, by most modern writers, one of the ablest being Heinrich Fritsch, for whose learning and sagacity I have the highest admiration, but notwithstanding I believe it rests, in the main, on impregnable ground. Fritsch says: "The mechanical explanation of dysmenorrhea played a great rôle with Marion Sims. It was said that the inner os uteri was partly actually narrowed as a complication, and partly was contracted owing to the fact that the uterus was flexed in this place. If blood was now effused into the uterus it could not escape, consequently uterine contraction originated, and this constituted dysmenorrhea. . . . Against this view speaks the following: 1. The pains have not the plain character of labor-like pain, are not at all limited to the uterus, but are felt in the entire hypogastrium and in the thighs. 2. It is proved by sounding that the pains are frequently present before a drop of blood is found in the uterus. The pains by no means disappear when the blood has free egress; nay, just in the worst cases so little blood is secreted that it can by no possibility stimulate the uterus to contractions. 3. The fluid blood is not to be identified with a firm foreign body stimulating the contractions. Coagula just in these cases are never found. The uterus does not react by dysmenorrheal pains even on the formation of polypi, on the sound, on accumulations of mucus, on intrauterine treatment. 4. The menstruation in the same patient is at times painful, and with appropriate therapeutical measures quite free from pain. Menstruation in a wide uterus may be very painful when it is inflamed or lies in a bad position. 5. Quite the same condition is observed in a quite normally formed uterus. The pains in uncomplicated cases are to be explained in the following way: We know that the mucous membrane swells very considerably in menstruation and that the uterus also becomes larger. The resistance of the uterus to this thickening of the mucous membrane and the dilatation of the blood-vessels produce contraction and pain. Dysmenorrhea is frequent, therefore, in a badly developed, small nulliparous uterus, but is wanting in the healthy, yielding uterus of a multipara whose vessels and cavity are wide. A strongly flexed uterus will oppose greater difficulties to the thickening of the mucous membrane and the uniform distention than a completely normal one. It must be borne in mind, in addition, that the swelling mucous membrane, in menstruation, forces the mucus out of the uterus and almost always some discharge precedes the menstruation. If this mucus cannot escape on account of stenosis of the os uteri, or on account of strong anteflexion, or on account of polypus, also if the blood is retained, the mucous membrane is prevented from swelling. The use of the sound will help here. This view has much affinity with the assumption of Sims, for which the success of the operative measures plainly speaks. After a birth the dysmenorrhea ceases as a rule, because the vessels and the muscular tissue likewise remain dilated."

This admission on the part of Fritsch is all that the advocate for the mechanical view could wish, and at the same time shows that with the eminent gynecologist love of truth weighs more than the reputation for dialectic skill. Küstner insists that the exclusive mechanical view of dysmenorrhea must be allowed to drop, but at the same time admits that we can moderate or heal the dysmenorrhea if the contractions of the uterus are removed or limited in some degree by eliminating their cause; that is to say, if so easy a way of escape is made for the uterine contents that contractions are not called forth, or at any rate to only a limited degree. He also finds the underlying cause of the phenomena in inflam-

matory conditions of the uterus and the adnexa and their peritoneal investment. August Martin believes that one of the most frequent[3] complaints of women, the subject of salpingitis, refers to dysmenorrhea; at the same time he expressly states that the pains are increased during menstruation in some cases, while in other cases they undergo amelioration. He further states that in reference to the dysmenorrhea in salpingitis it must remain questionable what share the uterus and what the peritoneum has in the pains, "even if the pains are decidedly localized in the tubes." We thus see what a confused, hazy clinical picture we obtain of dysmenorrhea if we bring under its definition all the inflammatory affections of the pelvis, while on the contrary it is clear and intelligible in all its details if we regard it as a neurosis originating when the uterus finding an obstacle to the evacuation of its contents, responds by spasmodic contraction of its muscles. All other pains, whether occurring during menstruation or at other times, and proceeding from endometritis, metritis, perimetritis, oophoritis or salpingitis, are absolutely excluded from a proper conception of dysmenorrhea.

I by no means wish to deny, however, that dysmenorrhea in its full type, if allowed to persist unchecked, will undoubtedly cause oophoritis and endometritis. A peculiar form of dysmenorrhea, called intermenstrual pain, has lately attracted much attention. Halliday Croom devotes considerable space to its discussion in his article in Allbutt's "Practice of Medicine." It is a misnomer to speak of it as dysmenorrhea, and I agree with Fritsch in regarding it as a symptom of endometritis. A form of dysmenorrhea, which is of special interest to the general practitioner, is the pain accompanying menstruation in young girls soon after the establishment of this function. In these cases the explanation will usually be found in the fact that the uterus is backward in its development and consequently is unable to meet the demands made on it by the menstrual process. The blood-vessels especially possess too slight a caliber and are inadequate to the menstrual fluxion. The mucous membrane is thus not able to swell properly and perform its functions. The abnormal increase of pressure in the uterine vessels, which is normally relieved by a free flow of blood, evokes now reflex contractions of the uterus, which are increased from the fact that the uterus, in consequence of the smallness of its cavity, is unable to hold the secreted blood. It is not to be denied that there are cases of severe dysmenorrhea in which the source of the disease must be sought, not in the uterus, but in the general system, especially the nervous system. The subjects of this type are neurasthenic or hysterical. They are, as a rule, badly nourished, anemic, chlorotic individuals, with a hereditary tendency to nervous and psychical disturbance.

Dr. William Fliess, of Berlin, has called attention to a peculiar form of dysmenorrhea which he designates by the term nasal form of dysmenorrhea. According to this author, there are certain points in the nose called by him "genital places," particularly the inferior turbinate bones and the tubercular septi, which undergo changes during menstruation, under certain conditions in consequence of which dysmenorrhea is evoked as a reflex phenomenon. The application of cocain to this part of the nasal mucous membrane will alleviate the dysmenorrhea, while cauterization will effect a permanent cure.

3. Die Krankheiten der Eileiter, Leipzig, 1895.

The relation between the nose and the sexual organs deserves more attention than it has heretofore received, but meanwhile it must remain a subject for further investigation.

That form of dysmenorrhea called forth by an endometric exfoliation presents a group of symptoms which may be considered as a pure type of dysmenorrhea. The symptoms are necessarily more pronounced than in ordinary cases, especially the rhythmical contractions, since a stronger force is requisite for the passage of a solid membrane than for the expulsion of fluid blood. Recognizing the fact that the dysmenorrhea is a neurosis and that the characteristic pain is to be referred to spasmodic contractions of the uterine muscular tissue, which manifest themselves when the menstrual blood effused into the cavity finds an obstacle to its discharge through a narrow or flexal canal, the indications of treatment are obvious. In the uncomplicated dysmenorrhea of young girls a vaginal examination is unnecessary. The general health should be promoted by tonics, proper exercise, attention to the state of the bowels, and to act on the uterus, the fluid extract of hydrastis—a teaspoonful three times daily—should be exhibited during the free interval. If the pain persists it may be necessary to resort to the use of a suppository containing aqueous extract of opium or morphin, and thus the patient may be permanently relieved. I need scarce remind you that a frequent recourse to the use of opium is manifestly contraindicated. Antipyrin has shown in my hands wonderful power in relieving the pain of dysmenorrhea. It may be exhibited by the mouth or hypodermically. It should be borne in mind, however, that it is very depressing in its action on the heart, and its effects must be carefully watched. Of all the coal-tar derivatives, phenalgin in 5-grain doses once every hour or two until the pains cease, has rendered me the greatest satisfaction. Apiol exhibited twice daily for some days previous to menstruation is a valuable acquisition to the remedies.

If these simpler measures prove inefficient, it will be necessary to resort to local treatment. In cases of hypoplagia or pathological anteflexion, cure may be effected by recourse to a gradual dilatation by Hegar's dilators, or, as I prefer, by steel sounds. McGinnis praises highly the use of electric treatment. In chlorosis and nervous phenomena he applies one electrode on the abdomen the other in the lumbar region. In cases of "pure uterine dysmenorrhea," he applies the positive pole in the cavity of the uterus.

If in spite of these local measures the dysmenorrhea recurs, an excellent method is to dilate with laminaria tents. I agree entirely in the view expressed by Fritsch that by this gradual dilatation better results can be obtained than by the use of forcible dilatation at one sitting. A small tent, properly bent and aseptic, is first introduced, the patient being in Sim's position and the uterus fixed by a bullet forceps, and allowed to remain twenty-four hours. Iodoform gauze is placed against the os uteri and the vagina packed. A second is similarly introduced and allowed to stay twenty-four hours, and so on until the cavity is sufficiently large to admit the finger. The uterine cavity is then packed tightly with iodoform gauze and this is kept intact for two days. If this treatment is conducted according to strict principles of asepsis and antisepsis, no infection may be feared. As Fritsch correctly observes, "the next menstruation may be still painful in consequence of ir-

ritation of the nerves, but afterward menstruation occurs without pain."

I have heard gynecologists declare that they never make use of tents, that such methods are antiquated; but in this class of cases the laminaria tent unfolds a power that can be equaled by no other known plan of treatment. In cases complicated by chronic endometritis and in those in which a myoma is situated in the uterine wall I make use by preference of the dilator of Pryor, which possesses many advantages over the ordinary dilators, for the purpose of thorough dilatation. The uterus is then curetted with the Sims sharp curette and tightly packed with strips of iodoform gauze. In this way the dysmenorrhea is cured with the endometritis.

For the membranous form I use the same method of treatment with decided benefit. Fritsch recommends the prolonged use of uterine irrigations of lysol, 1 to 100, after thorough dilatation, and this method is well worthy of adoption. Finally, it should be mentioned that oophorectomy has been recommended as a last resort in cases of persistent and obstinate dysmenorrhea. Against this practice I must make my decided protest; in the first place we have no certain guarantee that the patient's condition will be better after the operation than before, and secondly with the less radical means at our command I am absolutely sure that we can attain the desired goal by persistence, patience, and wise discrimination.

TREATMENT OF MENORRHALGIA OF PELVIC ORIGIN BY ELECTRICITY.*

G. BETTON MASSEY, M.D.

PHILADELPHIA.

What are we to do for the relief of our young women patients who suffer persistently from menstrual pain and spasm? I allude to those cases which have resisted all approved drug medication, including alimentary correctives and eliminants, as well as antispasmodics, and whose life is clouded during one-fourth of each month by an ever-increasing degree of morphia stupefaction as the only relief from intense pain.

The pathology of cases of this nature is usually of a dual character. There is commonly a chronic inflammatory process present in the endometrium, accompanied by congestive conditions in the ovary, the endometritis being merely catarrhal, and there is also a most pronounced erethism of the pelvic neuromuscular apparatus. This neuromuscular erethism is the feature wherein these cases differ so greatly from those of mere endometritis in parous women, unaccompanied by the menorrhalgic spasms. The pain and spasm are probably present in the younger women because of developmental imperfection, the result being very much like a tic-douloureux due to a bad tooth. Should pregnancy occur a spontaneous cure is probable, not because the cervical cavity is then larger, as incorrectly supposed by some, but because a full development of the organs has been produced by the remarkable trophic accompaniments of the gravid state.

The idea that dysmenorrhea is due to obstruction of the menstrual flow has been shown to be a delusion. No accumulation is ever found in these cases. The steel dilators that are still improperly employed in a treatment based on this obsolete theory themselves disprove the presence of obstruction, for a canal that will admit them in their closed state is far larger than necessary as a hydraulic drain for the menstrual fluid. If the purpose in view, in the use of these instruments for forced dilatation under ether, is not the permanent enlargement of the canal, but the mere divulsion of the spasmodic stricture, it follows that the method should be employed only during the actual spasm of the period, and should be repeated at each period, conditions never present in these operations as advised in the books.

The truth is, that this formidable operation, the forcible dilatation of the cervical canal by steel dilators, oftener does harm than good; the cases temporarily relieved rarely experiencing comfort more than during one period, and this probably owing to an amelioration of the endometritis. The harm at times done by the operation is, on the other hand, an actual aggravation of the subacute catarrhal condition, ending, in some instances, in an ascending catarrh of the tubes and ovaries.

Too often the final history of a case which has been placed under forcible dilatation, is abdominal section for removal of inflamed ovaries. This result may at times be merely in spite of the treatment, which failed to cure the case in its first stages; but in other cases I have the unquestionable testimony of patients and their physicians that what had been merely menstrual pain in the uterus and back before dilatation, was changed to constant pain in the ovarian regions after dilatation, and this without relief from the menstrual pains.

There are at present a large number of physicians in this country who agree with me that in electricity we have a most valuable remedy for the permanent cure of persistent menorrhalgia, even of the most severe forms. Unfortunately, little is written at present from this point of view, and the unopposed views of the wisdom of dilatation remain uncontradicted. The method may be carried out in office practice, is free from risk to already congested appendages, and may be relied on to cure when conjoined with intelligent regulation of the general health and habits of the patient.

I have given the exact technique elsewhere, but may say that it consists of judicious blending of vagino-abdominal applications of the positive pole of the galvanic current with similar intrauterine applications of the same current. The intrauterine applications must not be used, however, until the congestive condition of the appendages is relieved, after which the local effect of mild mercuric cataphoresis within the cavity will quickly remove the endometritis, which, having its inception in "catching cold" during a period, is the initial lesion of the affection.

It will be noticed that I recommend that the positive pole of the galvanic current be used and not the negative. This choice is deliberately made as the result of large experience, and shows that electricity does not owe its value in these cases to a dilating effect, as some think, this effect being greatest at the negative pole, but rather to the cure of the endometritis. If there is no endometritis I do not pass the electrode within the uterus at all, but apply the internal electrode within the vagina alone.

I would urge an intelligent use of electricity in this condition on the part of all physicians engaged in general office practice. Expertness is readily gained by those equipped with sufficient gynecological and electrical training, and though the actual work will require

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some time and trouble, the result can not be other than pleasing when it keeps the patient at home, makes her a well woman, and robs an operating-room of another sexless product.

DISCUSSION ON PAPERS OF DRS. THAYER, HARRISON AND MASSEY.

DR. E. G. ZINKE, Cincinnati, Ohio—This is a subject with which we are all more or less familiar, but we all differ as to the proper treatment of the various cases. I have listened very attentively, and I must say that I have heard nothing especially new. So, too, the criticism I may make is not particularly new. I have ceased to use electricity for fully eight years in the treatment of gynecologic cases. I have purchased hundreds of dollars worth of apparatus for this work, but have derived absolutely no benefit from it, especially in the treatment of dysmenorrhea. I am free to admit that in some of these cases I did not, in all probability, determine the real cause of the trouble. When a case of dysmenorrhea presents itself to me now, I make every effort to determine the cause. Those cases which are amenable to treatment at all can be cured without the use of electricity. The most difficult are those in unmarried women, especially when under 18 years of age; in these it is exceedingly difficult to determine the nature of the trouble unless an examination is made, and this is not always advisable or possible. We might treat the patient from a neurotic standpoint, but we should not waste too much time. After temporizing for awhile and failing to relieve the patient, I invariably insist on examination under the influence of an anesthetic. If we can exclude want of development of the generative organs not much can be accomplished by electricity. We should pay attention to the general health of the patient, proper diet, daily action of the bowels, outdoor exercise, change of climate and good habits, especially in girls who go to school or who work in ill-ventilated tailor shops, where they are obliged to sit for eight or ten hours in a cramped, unnatural position, breathing bad air. When we find a want of development or diseased conditions, we must give them the proper treatment, and I am sure that in cases of endometritis, metritis, salpingitis or oöphoritis the least beneficial treatment is electricity. I have absolutely no use for it in my practice.

DR. MAXIMILIAN HERZOG, Chicago—I wish to put myself on record as against the view that menstruation and ovulation are absolutely independent of each other. Truly, it is a fact that ovulation occurs without menstruation. It is also true that we have hemorrhages from the uterus, which are menstrual in character, without ovulation, but the exception only proves the rule. It was formerly claimed that in menstruation the major part of the uterine mucosa is shed. This view was derived from the examination of post-mortem material, which is unfit for studies of this kind. We must examine menstruating uteri obtained from the living if we wish to make correct observations. I am in a position to confirm the statements of Mandel and others that there is little of the uterine mucosa shed in menstruation, and that little consists only of some of the superficial epithelial cells. I have made this observation repeatedly on menstruating uteri obtained *per operationem* from the living. The changes which do occur in menstruation are the following: The capillaries of the intertubular connective tissue are enormously dilated and there is an extravasation of blood into the connective tissue. Some of the blood makes its exit toward the surface, and some of the surface epithelia are lifted away from their basement membrane and shed. Those are all the changes we find in a normal menstruating uterus. The object of this change is to prepare the soil for an impregnated ovum. It has recently been shown by Peters and others, that the human ovum, like that of lower animals, when it first begins to develop in the uterus, is surrounded by a solid layer of ectoblast with phagocytic properties. The changes occurring in menstruation are for the purpose of allowing the implantation of the ovum. The changes in the uterus in menstruation serve a specific purpose, viz., to prepare the soil for an impregnated ovum, and they therefore do stand in a certain relation to ovulation.

Regarding dysmenorrhea, our knowledge of the pathology of this condition is a very hazy one. Our classification of dysmenorrhea is incorrect. Obstruction to the menstrual flow plays a very insignificant rôle in the causation of dysmenorrhea. There are practically only two types of dysmenorrhea. One which is dependent on inflammatory changes in the uterine mucosa and the other dependent on inflammatory changes in the ovary. The inflammatory changes of the uterine mucosa are of the type of an endometritis interstitialis. In cases where the membrane is shed the uterine mucosa undergoes a change much like that in normal menstruation, except that the limit is overstepped and we have the formation of tissue very much resembling a young decidua. Several interesting papers on certain forms of oöphoritis characterized by changes in the vessel walls have recently been published. In these forms of oöphoritis we find processes of endarteritis obliterans and hyaline changes in vessel walls. We know little of the cause or causes of most cases of oöphoritis.

Some time ago I studied the histopathology of syphilis, and I have been able to confirm the work of Rieder, who found that the vessel changes in syphilis are mostly found in the veins and lymphatics and not in the arteries. I have examined a number from cases of dysmenorrhea, and found conditions very much resembling those found in syphilis. It occurred to me that it is possible that there are certain cases of oöphoritis which are of syphilitic origin. There is, however, nothing definite known as yet about this point, but I think it would be worth while if the gynecologist would keep in mind that certain forms of oöphoritis are probably due to congenital or acquired syphilis. In such cases mercury and the iodids would probably be of greater service than the knife.

DR. GEORGE J. ENGELMAN, Boston—I have always been very much interested in this subject since my study of the menstrual changes in the uterine mucosa, in 1870, and am at present engaged in an investigation of the menstrual condition among school and college girls; it has brought to my attention the various forms of dysmenorrhea common among young women in supposedly good health. Dr. Harrison mentioned two forms: one an acute inflammation of the uterine tissue and the other of the appendages. The majority, certainly many, of the cases of dysmenorrhea I observe among school girls are due to nervous influences. I have gone over nearly 5000 cases of menstruation in so-called "well women," girls in educational institutions, neither hospital nor private patients, and find from 42 to 83 per cent., perhaps an average of 66 per cent., afflicted with more or less menstrual suffering. The pain is increased with hours or intensity of study, with worry or emotion, and is diminished or ceases during vacation time without treatment of any kind. These are nervous menstrual pains, which are augmented by physical exertion and mental application and strain. I believe that the mental or nervous element is a more prominent factor than we usually take it to be, and clearly demonstrates the necessity for a general management of these cases. The character of the pain does not necessarily differ from that which accompanies inflammatory conditions, and how the diagnosis is to be made I do not know, except by examination and study of the individual case, but let us by all means, in the young girl, first attempt the general management, the relief of all abnormal and injurious conditions of worry or debility, of mental or physical prostration. As a large majority of these cases are unquestionably due to nervous disturbances, much can be done without local interference. Electricity I have used much and successfully for the relief of menstrual suffering and in the management of pelvic disease, and am sorry to see the contempt with which this really valuable agent is referred to by many and the superficial way in which it is disposed of. I know that many able observers say precisely what Dr. Zinke does. I differ with him, as my own experience is decidedly at variance with his. I like the effect of electricity, but would not rely on its use alone and unaided as a means of treatment. It is a valuable and effective agent, but must be used at the proper time, and in suitable cases, precisely as any other remedy or drug. I have found electricity an admirable remedy for the relief of pain in cases of

inoperable tumors, or when an operation is not desired, in neurotic and neurasthenic cases, in cases where stimulation is needed in debility, local or general, and where thickening of tissue exists, with a want of absorption. Electricity can be applied by a cotton-covered electrode in the vagina as the active pole, and the other over the abdomen, using mild currents. A very satisfactory method in dysmenorrhea due to flexion, narrowing of the canal or chronic inflammation is to use the dilator as an electrode. The dilator is connected with one pole, the abdominal electrode with the other, and the blades gently separated during the séance. In this way the electrode is brought in contact with the tissue, and dilatation is much more easily accomplished with than without the current. It has a relaxing effect and this overcomes the pain of dysmenorrhea. A few applications a month are enough, but most effective is one immediately before the appearance of the flow. The treatment is one requiring time and careful manipulation, with some knowledge of currents and instruments, but it has its good points and I am sorry that men of authority like Dr. Zinke express themselves as he does, as others will be guided by their very positive statements so unfavorable to this agent, which is truly valuable in its proper place, and unjustly abused because enthusiasts have claimed too much for it.

DR. C. L. BONIFIELD, Cincinnati, Ohio—Dr. Massey, in his remarks, said, much to my surprise, that those patients where we have a large accumulation of fluid in the uterus suffer no pain. I have seen a number of such following amputation of the cervix, this growing together and the obstruction being absolute or nearly so. They also follow curettement, where proper precautions are not taken to keep the os patulous. It has been my experience that such patients suffer the most intense pain at the menstrual period.

Dr. Herzog's observation that the mucous membrane of the uterus is not thrown off at the menstrual epoch, is the very latest view of German observers on this subject. The pain these patients have may not be due to the difficulty the fluid has in escaping from the uterus, but the difficulty it has in escaping from under the mucous membrane. A fact I have observed, and which speaks for an accumulation of fluid, is that if one of those girls suffering from dysmenorrhea for years, a girl who begins with an undeveloped uterus, be examined under an anesthetic, almost invariably the body of the uterus will be found dilated and pear-shaped. The walls of the uterus are not in contact as they ordinarily are, and one can direct the curette freely within the cavity. Whether this is from an accumulation of secretions or an hypertrophy of the organ I am not prepared to say.

As to electricity, I am willing to grant that Dr. Massey gets the result he claims, and other men who will take the time to learn his methods will get the same good results. I can obtain as good results in other ways that are less objectionable and not so difficult and objectionable. Dysmenorrhea is a disease of the unmarried, and such patients do not like to come to your office to be treated for weeks and months. It is best to dilate the uterine cervix, pack the uterus as firmly as possible with gauze, and thus produce a miniature labor, which will do more good than months of electric treatment.

DR. F. F. LAWRENCE, Columbus, Ohio—Some three years ago I wrote a paper on this subject and emphasized the important fact that painful menstruation is not a disease but simply a symptom, and that we should begin the treatment as soon as possible. The conditions giving rise to it must be treated as such, and the symptom of painful menstruation will rapidly disappear with the disappearance of the conditions treated. We might as well talk of leucorrhea as a disease as of dysmenorrhea. I am pleased to note that the doctor makes practically the same statement that I have made in my paper, and that is that obstructive dysmenorrhea has not only been shown to be a mistake, but is something we do not find. The conditions causing the pain may be classified as of uterine, intrauterine, ovarian, tubal, local or general origin, and we must fight the condition itself and treat that condition, and not treat a symptom.

Electricity may be, as Dr. Massey said, of some value: he is competent and we will take his word for it. Is it by its tonic effect, by increasing tissue metamorphosis, or what? Cases of small cervix are usually undeveloped ones. On examination of these—they are usually in young girls—we may find ovaries so small that we can barely tell that they are ovaries. The uterus is completely undeveloped, infantile in fact. These poor girls, suffering frightfully every month, are told that if they will marry they will get well. Cases of hyperemia, if permitted to become chronic, will result in a subsequent destruction of the ovary, and later it will break down into a cyst or become cirrhotic. These latter are the cases which give the most trouble. I have had a number in which a small, hard, cartilaginous ovary was responsible for the most marked disturbance, such as obscure neuralgia, convulsions and other nervous troubles. They are the patients who are not benefited by any local treatment. Many cases of hyperemia treated early will probably be cured by electricity. Of equal benefit are rest, local depletion and abstinence from all things which will produce sexual excitement or physical excesses. We have ovarian, tubo-ovarian, uterine, intrauterine and extrapelvic conditions, which are responsible for this trouble. Our chlorotic girls suffer severely from painful menstruation and nervous disturbances in connection therewith.

DR. E. G. ZINKE, Cincinnati, Ohio—I did not wish to convey the impression that I was opposed to the use of electricity, nor that I condemn any individual who may be disposed to resort to it as a means of treatment. What I did wish to say was this: Our chairman, with his experience, endorsed what I said, that there was no case on record in which the use of electricity produced a cure of any diseased condition of the pelvic organs. It may give relief under certain conditions, although personally I have seen none. No fibroid, ovaritis, salpingitis or endometritis was ever cured by electricity. I know of no man who has more experience, who has investigated more ardently, more diligently, more earnestly than Apostoli, and yet none of his patients, where measurements and plaster casts were taken, was benefited more than temporarily. We never have menstruation without ovulation. We must have had ovulation in order to have menstruation. We may have menstruation after ovulation has ceased, as, for instance, when the menopause has been brought about artificially; but there is no case on record in which menstruation made its appearance when ovulation had never occurred.

DR. C. C. THAYER—I have nothing to say in regard to my paper, as the points are put there for the consideration of others. The facts are recorded in many of the latest textbooks on the subject, and personally observed in clinical practice. In regard to the use of electricity in dysmenorrhea, I am greatly in favor of it in such cases. I have used it for twenty years, and appreciate its advantages more to-day than ever before. I have no criticism to make of people who have not used it or became familiar with it, but those who have tried it extensively find it to be a wonderful remedy in some patients with dysmenorrhea. Those gentlemen who look for the causes of this affection in the genitalia, do not look far enough. They do not understand the real elements that enter into the condition of dysmenorrhea in many cases, aside from the anatomic derangements or malformation. A most important cause is found in the disturbances of the nervous system, and oftentimes we must begin the treatment of it by directing our attention to general physical conditions. Hygienic treatment is an important item. Along the same line electricity comes in with its influence on the nervous system. It is not so much in dilating the blood-vessels, on which dysmenorrhea is not always dependent, but it is the general tonic effect of electricity. It facilitates free circulation and stimulates the entire nervous system.

So far as accumulation of fluid is concerned, I think that is an exploded theory. I have dilated the uterus time and time again, using the suction syringe to see if there was an accumulation, but found none, and when curetting have found nothing except what was necessarily attached to the mucosa. The accumulation theory is a false one, and in most of these cases I think we will find, as Thomas so beautifully and strikingly

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showed in his last text-book, "that dysmenorrhea is more often cured by a trip to Europe than by any process or treatment he ever used in his office."

DR. G. T. HARRISON—Dr. Massey can not prove the assertions he made. It is a pity I could not read the whole of my paper, so that you could see the argument. In speaking of Dr. Sims, I think he spoke rather slightingly of him. Of all the names that shine in the pages of the history of our profession, he can not bring forward any two greater names than J. Marion Sims and Carl Schroeder. The latter was one of the greatest and most gifted of modern surgeons. Those who have had the pleasure of seeing him in Berlin were impressed by his greatness, as his was one of the most majestic figures in Germany. As Martin said to a friend, we did not appreciate—fully at first, his loss— and it is only years afterward, after these men are lost to us, that we realize how great their value has been. When I can quote such authorities for the views I hold, I feel that I would rather err with those men than be right with Dr. Massey.

DR. G. B. MASSEY, closing the discussion—I do not wish to be behind in my homage to Marion Sims, but the thought occurred to me recently that the day of authorities in medicine had passed away a short time after I graduated. More harm has been done by the blind following of authorities in medicine than by the inquisition of the middle ages. We want facts, not the personality of the man who brings them forward. Sometimes noble personages lead to the perpetuation of great errors. My paper was a very short one and referred only to the incurable sort of cases, those which are supposed to go to the surgeon, hence I welcome the many remarks made about the neurotic cases, those that can be cured without even the means I recommend. I took especial occasion to mention that the uterus should not be invaded by an electrode, or anything else, unless there was local disease of the endometrium. I can not too strongly corroborate the remarks made that needless examination should always be avoided, but there are cases, and I have in my mind quite a number that are destined to shipwreck in life unless they are cured. They come to me before, and they come to me after the dilatation, and it is to those that the second part of my paper particularly refers.

I need hardly say anything on the question of the accepted theory of obstruction. Dr. Bonifield's evidences of pain in connection with accumulation in the uterus were all traumatic. They were operative. You will find in the literature of the non-operative cases of pelvic accumulation that those are not diagnosed until the accumulation will at times amount to a pint of fluid. In other words, the patients have no pain. I have proven, too, that there is no obstruction, that there is no spasm, no actual muscular spasm. I reported a case some years ago, in which I found the cervix more dilated, coincident with the pain, than in the normal condition. After all, the most important element, as pointed out by other speakers, is the neuromuscular storm of the apparatus connected with the reproductive organs, and that explains the pain. It is not the physical obstruction, but it is the painful condition superinduced by the effort of the diseased organ to throw off the immense amount of excrementitious material which is to be thrown off at that time.

MOVABLE KIDNEY, FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.*

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Movable kidney was first described by Rayer, in 1836, and since then various authors and writers have called attention time and again to the importance of this abnormal condition, among whom I might mention Hare, Keppler, Sulzer, Hahn, Edebohls, Ewald, Einhorn, Israel, Lewis, Noble, Senn, Keen, Reed, and others. The earlier writers treated it almost entirely from a medical standpoint and the later ones as entirely from the surgical.

My object is primarily to endeavor to interest the general practitioner in the subject, in order that he may be able to diagnose the condition, and to determine which cases should be treated medically and which surgically. I would also like to impress him with the fact that in many cases this condition is a most serious one, and unless it is recognized, and promptly and intelligently dealt with, very grave consequences may result.

The normal location of the kidneys, as well as their anatomical relations to adjacent viscera, are so well understood that I will not take up your time with a description of where they ought to be found, but will try to point out how you may be able to tell when they are in an abnormal position, and outline the symptoms somewhat in detail. The frequency of malposition of the kidney is astonishing, and it has been estimated that one woman out of every four has a movable kidney, and while they are not all of them suffering from it, yet in the vast majority of these cases it does produce symptoms which need attention.

There are probably thousands of women and many men suffering from the effects of a movable kidney to-day, and many of them seriously, who are being treated for indigestion, hysteria, neurasthenia, heart disease—so-called—albuminuria, and even mental disorders, such as hypochondria, melancholia, epilepsy, etc., and who are being drugged almost to death, and yet receive practically no benefit from their treatment. Such a condition of affairs should not exist, and there is no reason why any intelligent practitioner should not be able to recognize and diagnose a movable kidney, if he carefully examines his patient, and after having found it, he should be able to advise the best method for getting relief.

The etiology of this condition is a difficult problem, and the causes assigned by different writers are very many. In some cases it is undoubtedly a congenital condition, but in most of them it is acquired, although I believe that in a very great many there exists an individual predisposition, which is due to some abnormal congenital conditions.

Among the various causes assigned are tight lacing, relaxed abdominal parietes, the result mainly of childbearing, traumatism, and absorption or atrophy of perirenal fat. The last is probably one of the most common causes, as the greater number of cases of movable kidney will be found in thin people; in fact, it is almost axiomatic, given a thin woman, weighing 110 pounds or less, with various reflex nervous symptoms, and you are pretty sure to find a movable kidney.

Movable kidney occurs in the great majority of cases on the right side, and why this is so no satisfactory explanation has as yet been offered. Occasionally it occurs on the left side, and quite frequently both sides are affected at the same time.

The symptoms of movable kidney are very complex, and are common also to many other diseases, particularly those of the female sexual organs. In fact, in very many cases, there is coincident disease of the uterus and its adnexa. The nervous disturbances are greater in the early history of the displacement, and in those cases where the range of motion is not very great, while the localized discomforts are more pronounced where the condition has existed for a longer time, and where the range of motion is greater.

This is probably because the sympathetic nervous system, through the influence of which the various reflex

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symptoms manifest themselves, becomes accustomed to the abnormality after a time, and fails to notice it; while, on the other hand, after the condition has existed for a long time, and the range of motion has become greater, we have localized conditions, due to traction on the renal vessels and nerves, congestion and inflammation of the organ itself, and occasionally acute strangulation, due to torsion of the blood-vessels and ureter.

In the earlier stages, the most common symptoms are digestive disturbances, nausea, epigastric pain, faintness, especially on first arising in the morning, cardiac palpitation, general nervousness, distension of the bowels with gas. These symptoms are aggravated by exercise and excitement. Many patients are unable to ride in steam or trolley cars without being nauseated; later on they complain of localized pain, or a sense of dragging or weight in the lumbar region, and occasionally severe pain, due to extreme congestion or an acute hydronephrosis from twisting of the blood-vessels and ureter.

Inability to lie on the left side is frequently complained of, and the most comfortable position is flat on the back, which position relieves all strain or traction on the blood-vessels and nerves, and permits the organ to resume its normal position and functions.

The diagnosis of movable kidney is comparatively easy. In most cases the patients are thin and the abdominal muscles relaxed, so that the kidney can readily be felt in either the hypochondriac or lumbar region, sometimes as low down as the iliac fossæ. The examination may be made either with the patient lying in the dorsal position, or standing. Personally I prefer the latter, as oftentimes, when the patient is lying on her back, the kidney goes back into its normal position and remains there and can not be felt at all. If examined while in the dorsal position the thighs should be flexed, to relax the abdominal muscles. The examiner sits on the right side of the patient, with his left hand passed under the small of the back, pressing deeply into the renal region, to prevent the kidney from slipping back into position unrecognized. The fingers of the right hand palpating the front and sides of the abdomen usually recognize the displaced organ.

When a movable kidney is discovered, it should be caught between the fingers of both hands and its characteristic shape outlined. Slight pressure will elicit some tenderness, and a peculiar sickening feeling will be complained of. The kidney readily slips from between the fingers back into position, and it is hardly possible to mistake it for anything else.

If the patient is examined in a standing position, she should have her clothing loosened and her skirts supported by a nurse or assistant, or by the examiner himself, so that she will not be embarassed with the fear that her clothing will fall off. She should stand before a table or stand, with her hands resting on it, bending slightly forward. The examiner stands behind the patient, with the thumb of the right hand pressing firmly over the lumbar region, and the fingers pressing deeply in front. The kidney is then felt between the thumb and fingers very plainly, and upon slight pressure slips back into position; oftentimes the patient can distinctly feel it slip from between the fingers and will tell you so.

When the left kidney is examined, the left hand is used in the same way. The advantage of this position is, that very often you wish to examine a patient and there is no nurse or assistant to hold her skirts, and the examiner can hold her skirts with one hand while examining the kidney with the other.

In some cases, where the patient is not very thin, it is necessary to use both hands, and under such circumstances the examiner should sit at the right or left side of the patient, according to which kidney is to be examined, and use the one hand behind and the other in front.

Occasionally the abdominal muscles are so hard and rigid that it is impossible to feel anything. Under such circumstances it may be necessary to administer an anesthetic. Movable kidney must not be confounded with a distended gall-bladder, a displaced liver, or other intra-abdominal tumors. A careful examination of the tumor will easily disclose the characteristic shape and size of the kidney, and the history of the case will, if carefully studied, aid in the differentiation.

The prognosis of movable kidney is favorable if properly treated. There is, however, a very positive danger from such a condition that has been of long standing. The traction on the veins, together with an occasional twist in the blood-vessels and ureter, produces congestion, which is after a time followed by inflammatory changes in the tissues, and eventually you have a chronic interstitial nephritis, manifested by tube-casts and albumin in the urine. Acute hydronephrosis is not uncommon, and this in time may be followed by pyonephrosis. Acute strangulation may also occur with necrosis if it is not promptly relieved.

In all cases the patients are chronic invalids and their lives made very miserable, if not actually shortened, by the neglect to recognize and treat this condition. The treatment may be divided into medical, mechanical and surgical.

1. The medical treatment would consist in the use of such measures as would improve the general health of the patient, together with the accumulation of surplus fat. The rest treatment, with forced feeding and massage is sometimes beneficial, at least temporarily, but as soon as the patient returns to her ordinary duties the condition is, in most cases, reproduced. Toning up the nervous system, as well as the digestive apparatus, relieves the effects of this condition sometimes, but does not alter the conditions themselves, and therefore must of necessity be only temporary. For this purpose, I know of nothing equal to tincture of nux vomica in large doses, together with cold douching of the spine, followed by brisk rubbing.

2. The mechanical treatment consists in the use of elastic bandages, sometimes fitted with a special pad, called a kidney pad, and in some cases this device relieves the symptoms, but I doubt if it ever keeps the kidney in its proper place.

3. The ideal treatment is surgical, and with our improved methods and technique it is attended with a very small mortality, practically none at all when it is not complicated by other abnormal conditions.

This condition is so frequently found in multiparæ and associated with various lesions of the uterus and other pelvic organs that the gynecologist necessarily comes in contact with the greater number of cases, and a number of operations have been devised for its relief.

It is not my purpose to discuss the merits of the different operations, nor to recommend any particular one, but I wish to say that my own cases have always had a nephrorrhaphy done, with buried silk-worm gut sutures, and in every instance the patients have been restored to perfect health and able to perform all the duties required of them in their different stations in life without any difficulty.

To recapitulate, I would like to emphasize the following points: Examine carefully every patient who weighs

less than 120 pounds and complains of general nervous symptoms, indigestion, palpitation, etc., for movable kidney. If you do not find it at your first examination, look for it again, and even for the third time, as you will frequently fail to find it at your first examination, and will be able to demonstrate it at your second or third. After having found it, study carefully all the symptoms and conditions and decide what is best to be done. When you have so decided, if you favor surgical treatment and are not qualified to operate yourself call to your assistance some one who is and have him operate for you. As to the particular operation, let the surgeon decide that point and hold him responsible for the results. If I have succeeded in interesting one general practitioner in this important subject, and he goes home inspired with the knowledge that he can bring relief to some of his patients who may have been suffering for a long time from this condition unsuspected then I shall consider my time and effort well spent and shall feel amply repaid for what has been so imperfectly done.

SOME NOTES ON THE CLIMATOLOGY OF ARIZONA.*

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It is the purpose of this paper to call your attention to a region about which much has been said and written, and yet concerning which little is known by the medical profession. This lack of knowledge is not limited to the district under consideration and comes through the absence of climatological teaching in our schools and the dearth of literature on subjects pertaining to climate. In the great library of the College of Physicians and Surgeons, in Philadelphia, only one volume on the subject of medical climatology is to be found, and this is really limited in its scope. In about five hundred papers scheduled for this ASSOCIATION only three bear any relation to climate.

Our text-books make reference to the Southwest in a general way in recommending climate for this, that or the other disease, failing frequently to differentiate between the climates of this region. The fact is that there are almost as great differences in the climates of the so-called arid Southwest as there are between the climates of the Atlantic seaboard and the Southwest. This paper simply calls attention to the conditions which obtain in Arizona, leaving to the judgment of the practitioner the applicability of the climate to disease.

Arizona is an immense territory on the west of the great Rocky Mountain divide, extending from the northern line of Mexico 400 miles northward, and between California and New Mexico, east and west, about 350 miles.

Solly, in his "Medical Climatology," says: "An inquiry into the climate of Arizona discloses the fact that it is climatically distinct from each of its neighbors, New Mexico and California, and has natural laws of its own, although these laws are modified in turn by the climatic influences of both the Pacific Coast and the Rocky Mountains." He might have added that within Arizona itself almost every physical feature and climatic condition known to any portion of the United States is to be found. The reason for this is found in the physical features of the country and its relation to the Gulf of California and the Pacific Ocean.

For the purpose of the climatologists the territory has been variously subdivided. The classification most commonly given is that of Captain Glassford, namely, a plateau, a pro-plateau and plain. The present section-director of the weather bureau has made a new classification, which seems more satisfactory. That portion of the territory lying west of parallel 113 and extending to California and Nevada he includes in the district which approximates the "plain" of the other classification, and by dividing the remaining eastern portion by the 34th parallel of latitude, he has a northern and southern district, corresponding approximately to the plateau and pro-plateau of Glassford. In two stations of the western division for the year 1898 the mean temperature was 68.9 F. For six stations in the northern division the mean temperature was 52.03. For twenty-two stations in the southern division the mean temperature was 64.01.

On the other hand adopting the classification of plateau, pro-plateau and plain, we find that the plain occupies the southwestern one-third of the territory. The elevation of the plain varies from less than 100 feet above sea-level to about 3000 feet.

Do not get the idea that this is a perfectly level area, for it is not. True it is a plain, but there are mountains and valleys within it, but they are not numerous nor are the elevations great. The soil of this region is largely composed of a rich loam in the valleys, a sandy gravel on the mesas and the usual rocky formations in the elevations. There is very little vegetation except the cactus, sage bush and mesquite, except where irrigation is employed. As the cities which are visited in the winter and spring by thousands of invalids are within the district, making it the most important area from the standpoint of the medical climatologist, we will pause to review the conditions obtaining.

The assertion has been made that the elevation of the plain varies from sea-level to 3000 feet. Taking the only available report from a medium altitude as an average we choose the report from Phoenix for an average year.

For January the monthly mean temperature was 50.4 F., the mean maximum was 63.3 and the mean minimum 37.4. The mean daily range was 25.8 and the greatest daily range 33. The mean variability was 25, the mean of the three consecutive warmest days was 71. The maximum temperature for the month was 73, the lowest maximum was 52 and the highest minimum was 46 F. The mean relative humidity for the month was 49 per cent. The average hourly wind velocity was 3.7 miles. The total precipitation was 1.76 inches, which was 40 per cent. above the average. The percentage of possible sunshine was 85.

By way of comparison the averages at an elevation of 5000 feet in about the same latitude, in the plateau, gave the following: The monthly mean temperature was 41.5, 9 degrees lower. The mean maximum was 53.4, 7.1 degrees lower, the mean minimum was 29.6, being 7.8 degrees lower. The maximum temperature for the month was 66 as against 73 on the plain, and the minimum temperature was 17 as against 29 on the plain. The mean relative humidity for the month was 60.5 as against 19 per cent. The precipitation was 5.4 inches, some 30 per cent. below normal. The percentage of possible sunshine was 65, as against 85 on the plain.

In order to save time and continue the comparison we will take the month of April, the first of the next quarter. The monthly mean temperature was 68.8, the mean maximum 83.8, the mean minimum 53.7, the mean daily average range was 30.1 and the greatest

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daily range 41, the mean variability was 2.6, the mean of the three consecutive warmest days was 93 and the mean of the three coldest days was 47, the maximum temperature for the month was 95 and the minimum 42 degrees. The lowest maximum was 65, and the highest minimum 66 degrees, the mean relative humidity was 28 per cent. The average hourly velocity of the wind was 5 miles. There was only a trace of precipitation. The percentage of possible sunshine was 83. No rainy days were noted.

For this month in the plateau the mean monthly maximum was 79.91, as against 83.8, the mean minimum was 49.2, as against 53.7, the monthly mean was 64.6, as against 68.8 on the plain. The relative humidity was 22 on the plateau and 28 on the plain. The wind velocity of the plateau was 12.6, against 5 on the plain.

Taking July for another comparison, we have a monthly mean on the plain of 91 F., the mean maximum 103.7 and the mean minimum 78.2, the mean daily range was 25.5, the greatest daily range was 32, the mean variability 2.7, the mean of the consecutive warmest days was 109 and the mean of the three consecutive coldest days 70, the maximum for the month was 112 and the minimum was 68. There were 31 days with maximum above 90, 29 days above 95, and 24 days above 100. The lowest maximum was 92 and the highest minimum 84 F. The mean relative humidity was 40 per cent. This is accounted for by the fact that July is the rainy month of this region. The average hourly wind velocity was 4.7. The total precipitation for the month was .87 inches. The percentage of possible sunshine was 78.

For the same month on the plateau the mean maximum temperature was 91.1, as against 103.7, the mean minimum was 68.9, the mean monthly temperature was 80. The relative humidity was 9 per cent. higher than on the plain. The rainfall was 2.89 inches, against .87. The velocity of the wind was 100 per cent. higher than the plain. The percentage of possible sunshine was about 15 per cent. lower on the plateau.

The month of October on the plain was as follows: Monthly mean 68.9, mean maximum 82.1, mean minimum 55.7, mean daily range was 26.7, the maximum temperature for the month was 96, and the minimum 40. The lowest maximum was 66 and the highest minimum was 72. The average hourly wind velocity was 4.3, the mean relative humidity was 40 per cent. The total precipitation was .3 inch. The percentage of possible sunshine was 78.

On the plateau the mean maximum temperature was 76.2, against 82.1, the mean minimum was 49.7, against 55.7, the monthly mean was 63, against 68.9. The humidity was .51, against 40 per cent. The velocity of the wind was 9.8, against 4.3. The percentage of possible sunshine was 66, against 78.

For the year the means were as follows: On the plain the mean monthly temperature 70, mean maximum 84, mean minimum 56. The total precipitation for the year was 5.19 inches. The mean relative humidity was 36. There were 245 absolutely clear days in the year, 86 partly cloudy, and 34 cloudy. The percentage of possible sunshine was 85. The average hourly velocity of the wind was 4.4 miles.

On the plateau the means were as follows: Mean monthly temperature 48.2, mean maximum 58.5, mean minimum 37.6. The total precipitation was 19.6 inches. The mean relative humidity was 52. There were 180 clear days, 149 partly cloudy, and 36 cloudy. The percentage of possible sunshine was 65. The average hourly velocity of the wind was 7.1.

Thus it is seen that Arizona presents a great diversity of climates within her own borders, varying from the subtropical to the almost perpetual snow on the peaks of the high mountains of the north. Yet there is a marked similarity in all portions in the essentials of a dry climate, namely, the low relative humidity and the high percentage of possible sunshine. No region in the United States, and perhaps in the world, equals or even approximates the southwestern plain of Arizona for the dryness of atmosphere, the days of sunshine and low velocity of the wind. As in all dry climates, there is a marked difference between shade and sunshine, day and night, but it is a difference which is regular and constant, and can be guarded against by the invalid, because it can be anticipated.

Furthermore, Arizona offers any altitude from sea-level to 13,000 feet, and she has mineral and thermal springs whose virtues are just beginning to attract attention. If a maximum of sunshine, a minimum of moisture, with the ability to live out of doors in any elevation desired, meets the requirements of the medical profession of America, Arizona presents claims which demand consideration.

PREVENTIVE TREATMENT OF MIGRAINE.*

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The explanation of numerous diseased conditions on the theory of autointoxication has found ready acceptance because of its simplicity and because of much apparent evidence in its favor. This has been an especially welcome hypothesis to account for that obscure group of diseases known as the neuroses, for which all other theories have been so unsatisfactory. In this group it has been common to include migraine. Theoretical considerations, clinical observations and therapeutic results all point strongly in favor of such a hypothesis. But, however simple this theory seems in its statement, it in fact only throws the mystery a step further back. It is an explanation which needs explaining. It opens questions which involve the most complex problems of physiological chemistry. What are the toxic substances? Where and how are they formed? What organs are involved? These and many other questions have not yet been solved, and probably will not be for a long time. This is about the conclusion to which Ewald[1] comes in his recent elaborate review of the subject, which is the best summary of our present knowledge that has been published.

Bouchard's well-known work will remain one of great value, although all of his conclusions are not accepted, as will also the work of Alexander Haig on uric acid. How thoroughly the uric-acid theory has taken hold of the professional mind is evidenced in the frequency with which we find recurring in the medical literature of the past fifteen years the terms "lithemia," "uric-acid diathesis," "uricemia," etc.

As to migraine and similar disorders, Haig's results have been confirmed in so far as the increase of uric acid in the blood preceding the attacks is concerned, and as to the fact that preventing the increase of uric acid

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1. Berlin. klin. Wochensch., Feb. 12 and 19, 1900.

usually prevents the attacks. However, it has never been accepted that uric acid alone was the noxious agent.

The discovery of ptomains and leucomains raised the presumption that some of these bodies, particularly the leucomains, might be the real causative agents, especially when it was found that the symptoms produced by the injection of these substances into animals closely resembled the symptoms of some of these diseases. As the leucomains may be supposed to fluctuate along with the uric acid in the metabolic changes of the body, we have in this supposition supplied exactly what has been wanting as a causal factor.

About 1895 I became interested in the investigations my fellow townsman, Dr. B. K. Rachford, was making along this line. He apparently demonstrated the presence of paraxanthin in excess in the urine following attacks of migraine and migrainous epilepsy.[2]

Not only did his experiments seem to be conclusive, but the results of treatment on the lines thus indicated seemed to confirm it. Unfortunately other experimenters have not been able to confirm Dr. Rachford's results. Dr. Pfaff,[3] of Boston, has failed to find paraxanthin in the urine in such cases. Drs. Forcheimer and Stewart have apparently shown that the toxic properties of urine are due to bacteriological growth after it has passed, and that urine, either from a normal or migrainous subject, which is kept sterile is not toxic. These results throw considerable doubt on the reliability of Dr. Rachford's results, so that we must admit that however attractive and however probable, they are as yet not demonstrated.

To us, as therapists, the result of treatment is the main question, and here, as elsewhere, our therapy may be in advance of our pathology. Although I can not be sure of Dr. Rachford's pathology, I have had in cases of typical migraine great satisfaction in following his plan of preventive treatment as given in his various papers published in the *Medical News* and *Archives of Pediatrics*.

In its essentials this treatment, it is true, is not original. Since Haig's book appeared in 1892, I had, with fair success, followed his treatment of exclusion of meat diet, the administration of salicylates and other drugs which favor the elimination of uric acid; but my success has been much better in thoroughly carrying out the treatment of Dr. Rachford.

It must not be forgotten that, notwithstanding some form of leucomain poisoning may be the efficient cause, those concomitant causes which are enumerated in the text-books under etiology should not be neglected. Perhaps the most important of these is eye-strain. So frequently is this found that some writers have been inclined to make it the chief pathological factor.[4]

But the correction of ocular defects does not always cure without further treatment. Uterine and menstrual disorders must have appropriate attention. In children, adenoid growths should be removed. Vicious habits and hygienic sins must be corrected. Some of the French writers have ascribed an important rôle to dilatation of the stomach and proptosis of the abdominal organs in the production of sick headache. By favoring fermentation and absorption they may be predisposing causes when present. One such case has come under my care.

2. Trans. Assoc. of Amer. Physicians, 1895, Med. News, May, 1896.
3. Trans. Assoc. of Amer. Physicians, 1899.
4. E. C. Seguin, Cyclopedia of the Diseases of Children, iv, p. 832.

CASE 1.—Mrs. J. W., aged 41 years, widow, mother of two living children, of lithemic diathesis and with lithemic family history. General health is excellent; she has severe headaches recurring every ten or twelve days, accompanied by nausea and vomiting, with dizziness and flashes of light before the eyes. Pain is worst on right side, but radiates over whole head; has some fermentative dyspepsia with coated tongue, eructations, etc. Bowels constipated, urine somewhat scant and high colored. Has been subject to migraine nearly all her life. Physical examination negative, excepting relaxed abdominal walls with descent of stomach, lower margin of which is one inch below the umbilicus. An abdominal bandage was ordered; daily lavage was made for two weeks, then tube used only when symptoms of gastric fermentation returned or a headache threatened. Meat was excluded from the diet; the constipation corrected; lithia water given freely; exercise in open air ordered.

There was an immediate improvement, the headaches recurring only with some violation or neglect of instructions. Since the migraine had existed prior to a time that it was likely her proptosis began, for there was a distinct tendency to lithemia, it is not likely that the proptosis was more than a minor causal factor. My observations have convinced me that the essential in preventive treatment is the withdrawal of the red meats from the diet. At the beginning this is a hardship for many patients, but after a time they lose the craving for meat and very willingly avoid it. The hearty cooperation of the patient is essential for success. I am accustomed to say to such patients: "Your headaches are due to a constitutional tendency which can not be removed, but you may have your choice of suffering or being practically free from them by practicing self-denial and following certain rules." This plan of treatment is briefly as follows:

1. Red meats are to be rigidly excluded; fish, bacon, brains, sweet-breads and eggs are allowed. Rich and highly-spiced dishes are to be avoided. Coffee, tea and alcoholic beverages are to be excluded. Sweets should be reduced, but when meats are excluded a moderate amount is well borne. Water may be taken very freely. Meals to be taken at regular intervals and overloading of the stomach to be avoided.

2. As much outdoor exercise is to be taken as possible—undue fatigue to be avoided—rooms always should be well ventilated, both by day and night; and hot baths taken two or three times a week. In some cases the Turkish bath is beneficial; in some cases the morning cold sponge bath is directed.

3. The medicinal treatment aims to regulate the bowels, to promote intestinal antisepsis and to stimulate the liver, the great organ for completing the oxidation of the products of metabolism, and protecting the body from poisoning. The same end may be attained by various means. The various salicylates are all useful. In obstinate cases an occasional mercurial is required. I have had the best result in the long-continued use of some of the formulæ recommended by Dr. Rachford.[5] The one most commonly used is as follows: sodii sulph. (crystals), 120 grains; sodii phosphat., 30 grains; sodii salicylat., 10 grains; tinct. nucis vom., 3 drops; aquæ dest., to make 4 ounces. This dose is to be taken before breakfast each morning and is best taken in a glass of seltzer, or still better the ingredients are made up in these proportions in large siphon bottles charged with carbonic acid. The proportions are variously modified in different cases. In my own case I have so far seen no benefit from the use of potassium permanganate, which Dr. Rachford frequently uses.

5. Archives of Pediatrics, Oct., 1897.

From a number of cases which have been kept free or nearly free from suffering for a long time I select the following:

CASE 2.—MRS. C. E. S., aged 42, large and fleshy, of indolent habits, has been subject to sick headaches since puberty, general health is good. She came under treatment in April, 1898, at which time she was having an attack of typical migraine every two weeks, of great severity. After ruling out ocular defects and other sources of reflex disturbance she was put on the course of treatment above outlined. The above mixture in siphon she took each morning for several months, and still takes it for a few days or weeks if she becomes constipated or is threatened with a return of headache. The headaches disappeared almost immediately after beginning the treatment, and now recur very rarely and only when she breaks some of her rules.

CASE 3.—Robert S., aged 9 years. In early childhood, as nearly as his mother can recall, when between 2 and 3 years old, he began to have paroxysmal attacks of vomiting with severe headache and great prostration. He continued to have these attacks every two or three months with occasional milder attacks between. In the severe attacks he became unconscious, with head strongly retracted, with pupils contracted. On several occasions physicians who saw him believed that he was developing meningitis. All treatment had failed to do more than mitigate the attacks. He was very fond of meat, and it was quite a struggle for him to give it up. However, he very manfully submitted to the ordeal and was rewarded by almost complete relief for the past year and a half. He is allowed to have a little chicken occasionally. He now cares so little for butchers' meat that he does not eat it if placed before him. He has grown stronger and more robust. The oculist's report in this case was negative. He took a mixture of salicylate, phosphate and sulphate of soda before breakfast for one year, and still occasionally takes it.

In two other school children of about the same age I have had the same result, except that in one but little benefit was derived until errors of refraction had been corrected, and the third had constant relapses, from failure to follow the treatment, although quite free when closely adhering to it.

CASE 4.—MRS. G. D., aged 37, has family history of gout and rheumatism, is subject to rheumatism and neuralgia, has severe headaches just preceding each menstrual period, with extreme nausea and vomiting. The pain is supraorbital and on the right side. She is also subject to headaches which are not migrainous in character. She has astigmatism and myopia. She has also had pelvic inflammation leaving retroversion and adhesions. As her reflex disturbances can not all be removed and as the pelvic conditions do not allow vigorous exercise the result of treatment has not been entirely successful in her case. However, her attacks have been so greatly mitigated in severity and diminished in frequency that she very gladly adheres to the main outlines of this plan of treatment and most of the time has a siphon of the saline mixture on hand.

These are but a few cases chosen to illustrate the general outline and general principles of treatment of a large class of people, many of whom had life made miserable by the constant recurrence of their attacks of sick headache.

DISCUSSION.

DR. HEINRICH'S STERN, New York City.—The medical men of this country should be thankful to Dr. Rachford, of Cincinnati, Ohio, for pointing out that paraxanthin, which is the urotheobromin of the older experimenters, is found in increased quantities in the urine of persons who have been subjected prior to the enlarged excretion of this substance to an epileptic attack. Migraine possesses an epileptiform character, and I have found, repeatedly, a greatly increased output of this dimethyl-xanthin body in the urine of patients habitually suffering from migraine. Paraxanthin melts at 295-296 C., and forms glistening plates often 4 mm. broad. It crystallizes occasionally in needle-form crystals. It is hardly soluble in cold water. In hot alcohol it dissolves readily. Its solutions react neutral.

The methods employed by Bouchard in his experiments are irrational, imperfect and in a measure nonsensical. As I stated some years ago—Recent Studies in Urinology—there are mainly two objections to the experiments alluded to by Dr. Mitchell: 1. The direct introduction of the urine of man into the circulation of the rabbit. 2. The application of the phenomenon thus produced toward forming conclusions as to the autogenesis of certain diseases in man. The poisonousness of the renal secretion, I contend, may depend on certain elements which are not preformed in the blood, and which are transmitted into the urine from another source.

I am sorry that the time allowed for discussion does not permit of going at greater length into Bouchard's experimental fallacies and subsequent irrational conclusions. We American physicians have no business whatsoever to accept every new fad in medicine on account of its newness or because it is imported.

The red meat, chemically speaking, does not seem to differ materially from the white meats. The xanthin bodies are contained in the white meats in about the same quantities as in the red. Birds excrete enormous quantities of uric acid. This substance is contained in goodly quantities in the liver and muscles of geese, turkeys and other poultry. Most flesh of poultry is classified as "white meat," but it certainly contains all or nearly all these substances which we wish to keep out of the organism, when we prescribe a diet without "red meat."

DR. J. H. YARNALL, Washington, D. C., said that he has all his life been a great sufferer from migraine. His diet has consisted almost exclusively of red meats, never having eaten but one vegetable. He has at different times tried strict dieting, abstaining from meats and living on milk, eggs and dried bread without noting any difference in the frequency or severity of the attacks. The treatment that affords him the most relief is perfect rest; as soon as he notices the scintillating sparks appear before his eyes in the premonitory stage, he goes, if he can, into a darkened room and lies down, takes a small amount of whisky, and remains perfectly quiet; he generally gets over an attack in this way in an hour, but if the circumstances are such that he can not do this at once, the acute attack ensues with the most intense headache, the pain being of such a piercing character that he has had to take a small dose of morphia for relief. This treatment is only palliative, and has no effect in diminishing the frequency of the attacks. His experience has been that there is no distinct line of treatment that will suit all cases, but that each must be studied and treated on its own merits.

DR. A. L. BENEDICT, Buffalo, N. Y.—What is most needed in a discussion of this topic is an agreement as to what is meant by migraine. Oculists say that it is a headache due to eyestrain; some clinicians say that it is a gastric reflex; others go so far as to declare that it is essentially gouty. If asked just what they mean by "gouty migraine," they will answer that it depends on an intestinal indigestion. If we question further as to the nature of the failure of intestinal function, we meet with no satisfactory explanation. In some instances migraine seems to be the expression of a bacterial development in the lower bowel. In such cases great relief may be obtained from thorough flushing of the bowels, both by the rectum and through the mouth. In the use of colonic lavage, we must be careful to avoid the time of gastric digestion, for the reasons pointed out by Dr. Fenton B. Turck, of Chicago.

Many of these cases of so-called migraine are due to deficient secretion of hydrochloric acid, and are best treated by the administration of this acid. I wish to emphasize this point because so many physicians, relying on the sourness of which patients complain, fall into the error of considering the condition one of superacidity. In a sense, it is superacidity, but of an organic kind and best combated by hydrochloric acid, though alkalies will give immediate relief. I admit the possibility of mirgaine due to hyperchlorhydria, but, in my experience, this symptom is very rare in patients who have an excess of hydrochloric acidity.

Dietetic causes are certainly operative, but I believe that the essayist has too severely condemned sugar and candy. Most of us, at least in America, eat about three times as much meat as we should. I do not mean this as a general statement, but as one representing an actual, though approximate, arithmetic calculation. If we estimate the amount of proteid contained in bread-stuffs, vegetables, eggs and milk, we shall find a very small amount left to be provided in the form of meat. The ordinary serving of meat at a first-class restaurant is considerably more than should be taken in the course of an entire day. If we eat more than one meat or fish course, or if, as most of us do, we eat meat, hot or cold, fresh or preserved, at every meal, we exceed the normal ration at least twice. Now, with this excessive diet of proteid and of proteid rich in extractive, that is excrementitious, matters, if we take two or three pieces of candy and have a headache, the average layman, as well as the average physician, ignores the meat and lays the entire blame on the sugar. Very few of us are using muscles or wearing out our brains to such a degree as to need very much reparative material, and this is the sole physiologic function of proteid, although it may, in an emergency such as diabetes furnishes, be employed as a producer of heat and force. Sugar, on the other hand, is a valuable and concentrated fuel-food. All carbohydrates are digested into glucose before being of use to the body, and we have a special intestinal ferment to split into glucose, the three double hexoses, milk-sugar, maltose and cane-sugar. In many cases of migraine we find an excess of indican in the urine and an excessive virulence of the colon bacillus, due to the presence of an excess of undigested but rotting proteid. It certainly is a mistake to incriminate sugar and candy in such cases, though their excessive use may aggravate the essential condition.

DR. J. N. UPSHUR, Richmond, Va., wished to refer particularly to the use of red meat and the supposed lithemic cause of migraine. He thought, after reading Haig's book, that Haig has a hobby and rode it, booted and spurred, for all it was worth. The speaker had seen many cases of migraine, in which it would not apply, cases of headache from other causes beside digestive disturbance. Many of his patients presented symptoms of overwork of the nervous system, one of the first symptoms of breaking down in some of these was the failure of digestion, but not from any dietetic cause. There is probably in many of these an accumulation of uric acid in the emunctories of the body, as the result of disturbance incident to nerve strain. Like the gentleman from Washington, he had himself personally suffered from migraine, but in his case it was a condition of lithemia due to overwork. The attacks were associated with intense pain in the colon; requiring several weeks to break it off by careful treatment. Patients may suffer from migraine without committing any errors of diet, but as the direct result of overwork and nervous strain. There is a prominent member of the ASSOCIATION, a tireless worker, who, finding himself suffering with lithemia, followed out the plan of Haig, although he was the smallest eater of any man the speaker had ever seen. He did not need to be dieted, but did require a careful building-up treatment. The result of following out this plan of Haig's treatment in this case has been most unfortunate, and the distinguished patient is practically "laid on the shelf" in the midst of his usefulness. We do not yet know the pathology of gout and lithemia. The speaker noted a distinction between gout and lithemia. In a case of gout we have a history of a man who eats heartily and takes his bottle of Burgundy and goes to bed, feeling very contented with himself and the world, but wakes up at 2 o'clock in the morning, feeling as if a blacksmith had his toes in a vise. The next day he feels well and does it all over again. That is the result of indulgence in the pleasures of the table and is common in England. In this country, on the contrary, we make eating entirely a secondary consideration. A man here usually will only take twenty to thirty minutes for his meals, and really does not give enough attention to the subject. Personally he is a very small eater and cares little for food, but lives under constant strain and pressure, and from this overstrain of the nervous system he has a condition, from time to time, of something which he calls lithemia, although he does not know whether it is uric acid or some other error of metabolism. In the treatment, however, some action must be had upon elimination, either by the kidneys or the liver, in order to overcome it; and until evidence is obtained of proper secretion of bile from the liver, all other remedies will be of no effect. You must use one of the mercurials and follow this up with phosphate of sodium, which is the best solvent of uric acid that we can have. He gives it in hot water several times a day, until full action is obtained and then he follows it up with salicylate of sodium. Some physicians prefer salol, which is the most infamous concoction that has ever been introduced. A man does not want to put into his stomach anything that, for several days after taking it, will make him feel as if he had a hornet's nest in his stomach, from the eructations of gas. The principal thing is to relieve the nerve-strain. What the condition needs is rest, not dieting but every patient must be treated according to his individual merits, by taking away the red meats in some cases, while others needing nourishment are allowed the red meats in moderate quantity with other food. In most cases, the best nourishment is plenty of fresh milk.

DR. J. M. ALLEN, Liberty, Mo., said he had noticed that in regard to migraine, or old-fashioned sick headache, it subsides if the patient lives to be 55 or 60 years of age. The pathology of migraine is unsettled. It commences with pain in the head and is followed by nausea. Is the nausea due to the headache, or is it due to reflex, or other causes? In some cases it is observed that the stomach is intensely acid, and the intensely acid fluid passes through the pylorus. When there is not enough alkali there to overcome this acid condition of the contents of the intestine, in order to produce the necessary digestive changes, the result is interference with metabolic processes. The next phenomenon noticed is an increased flow of urine. As a result of the faulty metabolism, we have some noxious substance present in the blood, and this is thrown off in a large flow of urine. Some say there is deficient action of the liver. If there is any way of discovering when the liver does not secrete bile, he would like to know it. The liver keeps right on secreting bile. When the stools are pale, it is because the biliary ducts are obstructed, and all cholagogue remedies do harm. Moreover, the retained bile can not be the cause, for we know that just where biliousness should be expected in catarrhal jaundice, where there is no obstruction of the gall-ducts and the white stools, these symptoms are absent.

DR. E. H. BARTLEY, New York City, said that he would like to harmonize the various conflicting theories which had been mentioned with regard to the pathology of migraine. The accumulation of uric acid has been blamed by some; others hold that the digestive disorder is the principal factor, and others believe nervous disturbance to be at the bottom of the matter. Each view is partly right. There is impairment of digestive processes, but the nervous strain leads up to the digestive disturbance and the lithemia. The nervous strain is not the direct cause of the lithemia, but leads up to it. It must be remembered that Haig's method does not distinguish between uric acid and the xanthin bodies, so when Haig says uric acid, he means uric acid plus the xanthin group of bodies to which reference has been made by Dr. Stern. There is one point in diagnosis that is important. Where the nausea precedes the headache, it is usually a case of migraine due to stomach disorder, but where the headache comes on first it is likely to be one of nervous origin, often due to eye-strain. With regard to the cure of the patient, we can get the attacks to come a month or two months apart, or even at longer intervals, but in a patient with this tendency to migraine, he can not always expect to get entirely rid of the headaches, and he should be told this so as not to expect too much from the treatment.

DR. E. W. MITCHELL, in closing, said that in his paper he had spoken only of typical cases of migraine. In the discussion he had not heard anything to disprove the fact that the xanthin or alloxuric bodies are not present in the urine. While we may not accept the work of Haig to the full extent, yet it clears up the subject. It is quite probable that varying symptoms may depend on varying amounts of these partially changed bodies being carried over and not burned up. It is likely that the liver is the organ which has the function of

converting these bodies. So we come back to the former views as to biliousness and inactive liver, but we have a more scientific view as to what is meant and how the liver may be at fault. The essential point in the treatment is not one remedy, or single combination of remedies, but following out the plans of treatment indicated, which he had adopted with such success that he felt warranted in bringing it before the Section. In some cases, meats can be withdrawn and eggs substituted; he also recommended to his patients to use brown and particularly corn bread instead of white. In regard to the discussion about the red and the white meats, there is a difference independently of the question of the proteids. He considers the white meat more easily digestible. Where there is disturbance due to bacteria, it would be advisable not to use meat at all. In the laboratory we use meat broths for making cultures of virulent bacteria, and perhaps their use might favor such infection in the bowel.

CASES ILLUSTRATING VALUE OF RECTAL INJECTIONS OF SALT SOLUTION IN HEMORRHAGE AND THREATENED COLLAPSE

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MEADOW LAWN, KY.

On Sept. 16, 1899, I was called to see a woman suffering from hemorrhage due to abortion, at the end of the second month. She was virtually in a state of collapse, being pulseless and very pallid. I gave, hypodermically, nitroglycerin and atropin, near the shoulder.

Then, as soon as I could have it prepared, I injected nearly a half-gallon of hot salt solution into the bowel and held it there by pressure on the anus for one-half hour; her pulse came up, and she resumed to some extent, her natural color. I then put her on turpentine and ergot every two hours.

There was no more hemorrhage. The entire ovum was expelled, and there being no placenta I did not, in her prostrated condition, examine for clots. I saw her the next day, and found her doing well, with no further hemorrhage.

CASE 2.— On the night of Nov. 3, 1899, I was hurriedly called to see Mrs. R. She was supposed to be in the third month of her pregnancy. She was flooding freely; a large pool of blood was on the floor, having passed through the bedding. She was nearly pulseless, her heart beating very feebly. I could feel a vibration of the radial artery at the wrist. I used the same treatment in this case as in the first, and, in addition, washed out the womb with hot water, and removed the remaining clots with my fingers. She rallied in less than an hour, when the hemorrhage was completely arrested. I put her on turpentine and ergot, as in the first case.

CASE 3.—This was a neglected case of cholera infantum in a child of eight months. It had vomited and purged nearly three days when I saw it, and was nearly exhausted. The small vibration of pulse at the wrist could not be counted. It had kept food on its stomach only a few minutes at a time since it had been taken sick. It was very restless, and reached and cried for anything in a glass or cup, from intense thirst.

I injected about 1/40 grain of morphin with a minute portion of atropia, in its arm; as soon as I could have the salt solution prepared, I injected nearly a pint into the bowels, retaining it by pressure. In less than an hour its pulse came up, and it became quiet. I then allowed a teaspoonful of milk every fifteen minutes. It ceased vomiting, and in a few days, under proper treatment, was restored to health.

It is astonishing with what rapidity the sigmoid flexure and colon can absorb fluids in conditions where the blood-vessels are virtually empty, as illustrated in the above cases. It seems to me that this would be a better, if not a quicker, mode of introducing salt solution into the system than by hypodermic injections, likewise less painful to the patient and less dangerous than transfusion. In cases of emergency, like those above related, it is essential to get the fluid into the circulation as quickly as possible; it can be done by enema much sooner than we can get ready to do it by either of the other modes.

Another advantage is that the sterilization of instruments is not necessary; no time is lost thereby. We require only a fountain syringe, and in its absence a common hand syringe will answer the purpose. The salt solution should be sufficiently warm, about 110 to 115 F., and of the strength of an ounce of sodium chlorid to the gallon of water.

In using the hypodermic injections, we have to be prepared with the proper size of needle, which should be sterilized before using. This operation should be only done by the physician. Transfusion is attended with more risk to the patient and should only be done by the most careful and painstaking physician, and in fact it would always be advisable, when this operation is performed to have consultation.

In cases of emergency, like those above related, we have not time to send for instruments or medical assistance. Therefore, we contend that the quickest and safest plan, in such cases, is the best.

Salt solution is not only used as the proper fluid to restore the lost volume of blood to the system, but is also regarded as an effective antiseptic.

DISCUSSION.

DR. J. M. ALLEN, Liberty, Mo., approved of the teaching of the paper, which was on a comparatively new subject. Not every physician is in a position to transfuse blood, but rectal injections of normal salt solution can be practiced by every one. The one great difficulty experienced is in getting the fluid to rise above the sigmoid flexure. His own plan has been to raise the hips of his patient by allowing him to lie across, and partly over, the bed, with his shoulders near the floor. By this expedient the injection is very easily introduced and retained. With the aid of ergot to constrict the tissues and strychnin to overcome the anemic condition of the brain, and the use of this method, he does not see that it is necessary to lose a single case of this character. Time is what is wanted, and only a short time, and this expedient keeps the patient up until the blood-vessels are again fully supplied with blood.

DR. J. TRACY MELVIN, Saguache, Colo.—In the treatment of cholera infantum, there is one fact which must impress itself on every practitioner, i. e., that the saline injection is the one remedy for the relief of genuine cholera infantum. There is generally too much time lost in trying other remedies. If the author of the paper can persuade other physicians to overcome the collapse not only of hemorrhage, but also of cholera infantum, by saline injections, he will render valuable service and save many lives.

DR. T. B. GREENLEY, in closing, said that the first time he used the normal salt solution this way was in a case of collapse following postpartum hemorrhage. It occurred to him that if he could by any means fill up the blood-vessels, he might overcome the collapse. He made the experiment of injecting the saline solution into the bowels; the patient soon afterward came out of the collapse and made a good recovery.

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PHYSIOLOGIC RESUSCITATION OF THE STILL-BORN.*

DANIEL LICHTY, M.D.

ROCKFORD, ILL.

The usual methods of resuscitation recommended and practiced are so illy applicable at the bedside, to the restoration of the still-born, and so often ineffectual, that the suggestions here given and employed during eight years of the usual obstetric service of the general practitioner are deemed worthy of presentation.

The bronchi, bronchioles, rings, alveoli, sera, epithelia, mucosa, capillaries, elastic connective-tissue and muscular fiber of the lungs form an aggregation of structure as interesting and complex, regardless of their nervous control, as any in the human body.

Bearing in mind that the lungs do not functionate at all as organs during intrauterine life, but simply vegetate through their nutritive channels; and that the rich and active plexus of vessels of the pulmonary circuit are not employed during this period; and that the resiliency of the pulmonary tissues has not yet been tested, nor have the chest muscles been used in the mechanism of respiration, it becomes more apparent that physiologic rather than mechanical methods should be sought and employed to induce function.

During fetal life the respiratory center is in physiologic desuetude, or in an apneic condition; but there remains unleashed a negative pressure-of-inspiration in the nerve-cells of this center which is an inherent or latent potentiality, which keeps up a physiologic, coordinated, rhythmic relation with the circulatory center through their inosculating branches as long as life exists. Fetal blood has a larger percentage of hemoglobin than the mother's, and has also a larger respiratory capacity than adult blood; hence there is a remarkable power of resisting asphyxia in newly-born animals that have never breathed[1]. This was noted as early as Haller's period, and has since been made a subject of further experiment by Buffon, Langollois, Rosenthal, Stokes, W. F. Edwards and others.

Animals that are born with their eyes shut, as dogs and cats, and which have at first very little animal heat, will show signs of life after complete submersion for more than a half-hour in warm media; on the contrary, if a hibernating animal is put in a temperature of about 10 F. below zero, it dies through a paralysis, or inhibition of the center of respiration; but when these same animals are enveloped in an atmosphere or medium of greater temperature than found in either at birth or at apnea, respiration is soon established[2], even to a degree of excessive depth and frequency. And again, Dr. Ackerman has stated that the frequency of respiration is caused by neither want of oxygen nor excess of carbon dioxid in the blood, but alone by the increase of temperature of the whole organism, or heat dyspnea, or what Dr. Isaac Ott calls polypnea.

That there is an anatomic and physiologic area or center in the medulla oblongata which is recognized as presiding over respiration is no longer a subject of doubt or discussion. Experiment has been often enough duplicated to prove that removal of or injury to the medulla oblongata, alone, at once stops all respiratory movements, even though all the muscles of the trunk concerned in respiration—and they are many—and their associated nerves be left entirely uninjured; or, if that smaller tract of the medulla whose limits are not as yet exactly defined, lying below the vasomotor center, between it and the calamus scriptorius, be crushed or removed, respiration ceases though every other part of the body be left intact; so near this is the inhibitory vagus center that it too is generally injured or irritated and the heart's beat arrested or impeded, instant death ensuing.

This very important portion of the nervous system was designated by Flourens, the "vital knot," or ganglion of life; it is now, I believe, generally recognized by physiologists as one of the respiratory centers[3].

The group of dynamics stored in these centers coordinating respiration, is very complex and of wide distribution, as evidenced in impending asphyxia, dyspnea or aroused respiration, when nearly all the muscles of the trunk are called into requisition, reinforced by the rigid extremities fixing the trunk as auxiliaries.

Isaac Ott's polypneic center seems so firmly established that its recognition in this connection confirms the practice to be recommended: he locates this center in the tuber cinereum, and demonstrates that external heat as an irritant to the cutaneous surface carries an excitant to the polypneic center which, acting as a reflex center, sends other impulses that are carried to the adjoining respiratory centers, causing rapid respiration; he asserts that heat is the best external stimulant to rouse the polypneic center—the center of respiration in cases of poisoning or drowning.

Then we have Christiani's expiration and inspiration centers, Martin and Booker's inspiration center in the posterior bodies of the corpora quadrigemina; and Ott's polypneic center; all these subsidiary ones are in the medullary center and through this depot exert their influence on respiratory movements; these subsidiary or subordinate centers are no doubt connected with each other and with the vital center by well-fixed and responsive nerve-paths. It would be a waste of time to rehearse the experiments made in this field of research[4], while the clinical evidence that confirms the existence of such a depot is not rare; and the interrelation of function, physiologic and pathologic, between this and the ganglia of the great sympathetic, or organic brain, adds strength to the position.

"We also know that many cases of head injury by accident, or during delivery at child-birth, appear to end fatally, owing to failure of the respiratory center; in these cases alternate heat and cold to the abdomen and chest tide the patient over this dangerous period and bring about an ultimate recovery."[5] There is no doubt that most of the cases of asphyxia neonatorum are caused by pressure on the occiput during emergence beneath the symphysis and are a traumatism as much as if occurring in an ordinary accident.

Every ultimate structure has its center and its periphery, whatever its shape; the nucleus, nucleoli, surrounding fluid and hyaline wall form an arrangement by which excitation of any part of its peripheral wall finds an active response at its center; the human organism is an aggregation of these mobile, plastic and responsive units of which the new-born is its most delicate expression; the dynamic forces given by the gestative impress are inherent in all the structures; it is our duty to recognize these anatomic structures and physiologic processes in the methods of the resuscitation of the still-born. We know that the syncope occurring in chloroform employed as an anesthetic, induces primary failure of the circulatory mechanism and secondary failure of the respiratory center; the latter fails to act not

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

only because of the damage by the drug, but also because of the anemia of the medulla induced by the fall of arterial tension[6]. We also know how easily syncope can take place where there is general cerebellar anemia, and also where depletion has occurred from traumatism, accidental or surgical, whether attended by shock or not.

Resuscitation in these cases is by prompt depression of the upper zone of the body to favor gravitation of the blood to the dependent cerebellar region and medullary center. Next in importance to this is the supplying of artificial heat externally; and the supplementary pressure of the capillaries by the subcutaneous, subperitoneal or rectal flushings with the "normal salt solution," and a further prone or inverted position to stimulate both the centers of circulation and respiration.

The same fundamental principles adapted to the emergency of resuscitation at the lying-in-bed in the private home or hospital wards will, it is believed, achieve more than the methods usually employed, with less sanguinary and manual exhibition —e. g., such as Schulze's swinging of the child's body through the air, Sylvester's mechanical methods, etc.

If due preparation has been made and anticipated, resuscitation provided for, a basin large enough and an abundance of warm water is at hand, in such a case submersion of the occiput of the collapsed child is easily done and one of the requirements met; but the reverse of what should be is usually done—the hips and legs are immersed,while the head and body are held erect,whereas the feet and body should be elevated and the occiput completely immersed. With a hand resting beneath, this can be done, taking care not to allow water to enter the nasal or oral aperture; then, with the ring and little finger of the left hand, we should elevate the middle body, and with the right hand, or by the aid of an assistant, let fall or dash a half-ounce or so of cold water upon the unsubmerged epigastrium, and soon the reward of a gasp is heard—the stimulus to future respiration. This maneuver can be repeated once in ten or fifteen seconds, an ample time while waiting for return of animation. Should success not come with the first attempt, draw forward the tongue and at the next impact of the cold water a reflex will have gone forward and upward that will surely do its work.

Sometimes in the hurried advance of labor and the emergence of the child, complete equipment is not at hand; then a pint of warm water in which to submerge the occiput is of use, with warm flannels for enveloping the elevated body, and the accoucheur can sit at the bedside treating the child while the placenta and cord are still functionating with the mother. If the cord is short, this still has an advantage over early severance of the funis and removing the child to a remote table for manipulation where observation of the mother is lost and the chances of the child not enhanced.

If, while this manipulation is going on, the placenta is expelled, its maternal surface can be exposed to the air for the blood-absorption of oxygen, according to Dr. S. Stringer's method; here, however, another vigil must be kept, lest passive retrograde circulation ensue and the child become exsanguinated by placental hemorrhage. This may seem an inactive way when compared with the spectacle of swinging a child through the air, or hastily calling for a table and assistants to perform Sylvester's or Hall's resuscitation methods; and it may not seem as simple as the attempts to inflate the lungs, which usually only inflate the stomach; which if there is any good in it is through the reflex at the solar ganglion. Physiologic methods are above mechanical, and recognition of this fact and practice on this line will bring results and recompense.

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Clinical Report.

CASE OF ECTOPIC PREGNANCY.

J. HENRY BARBAT, M.D.

SAN FRANCISCO.

The following case illustrates the necessity of giving apparently trivial symptoms due consideration, and acting without delay if we wish to save our patients from unnecessary and serious risk from hemorrhage. Mr. H. came to my office on Friday evening, Nov. 30, 1900, to ask about his wife's condition. He stated that she had pains and some tenderness in the lower abdomen and had been flowing very slightly every few days for ten days previously. Her menstruation had been regular, but at the last epoch, on November 2, she flowed only for one day, her usual time being three or four days. I called to see her the day following and in addition to the symptoms mentioned found that ten days previously she had had a sudden pain in the abdomen, which was followed by considerable tenderness. Examination showed a soft mass in Douglas' cul-de-sac which could not be definitely outlined on account of the tenderness, but which seemed to be more to the left of the uterus. The uterus was about the size of a two months' pregnancy, and felt soft and doughy. After the examination the pain and tenderness seemed to leave, and the patient stated that she felt perfectly well; but the symptoms were sufficiently characteristic to make me feel that an ectopic pregnancy existed, and that the sudden pain which had come on was due to a slight hemorrhage from a rupture of the sac. An immediate operation was advised, and done on the morning of December 30. On opening the abdomen no blood was noticed, but a sponge passed down into the bottom of the pelvis was saturated with dark fluid-blood, showing that hemorrhage had taken place. The left side was examined first and the ovary found enlarged. This was cut into and proved to be a corpus luteum of pregnancy; the tube was normal. The right tube was enlarged at its distal end to about the size of an egg, and had two patches of lymph adherent on opposite sides. The ovary was normal. When the lymph was removed, the points of rupture were disclosed, and bled profusely. The tube was removed close up to the enlargement, leaving fully 2 inches of normal tube; the cut end was split for 1/4 of an inch and the mucosa sutured to the peritoneum. The specimen proved to be a six weeks' pregnancy. The patient made an uninterrupted recovery, as we usually find in all cases which are operated on before severe hemorrhage has taken place.

The case is of interest on account of the meager symptoms and the fact that the ovum which was extruded from the left ovary was fertilized in the right tube. Delay would certainly have resulted in further hemorrhages, with possibly fatal result.

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SURGERY OF THE NINETEENTH CENTURY.

About twenty years ago one of the most celebrated surgeons in London made a public address in which he stated that surgery had reached its limits. To-day one of the most famous surgeons of this country announces that the birth of modern surgery dates back barely a quarter of a century.

W. W. Keen, M.D., LL.D., ex-president of the AMERICAN MEDICAL ASSOCIATION, in his critical survey of the "Progress of Surgery,"[1] traces in broad lines the effect of the two great discoveries in surgery—anesthesia and antisepsis—to their individual results in each branch of surgery; and shows what few surgeons themselves realize how vastly the proportion of human suffering has been lessened, and how greatly human life has been lengthened by the appliances of these discoveries. The desire to bring relief to suffering is too widely human to permit of a narrow national pride, but it can not, nevertheless, fail to be an incentive to American surgeons to remember that some of the most brilliant achievements have come from their fellow countrymen.

After vaccination, which event illumined the history of medicine at the close of the eighteenth century, the most important discovery was that of anesthesia. On Oct. 16, 1846, Dr. John C. Warren first performed a major surgical operation without inflicting the slightest pain. Ether was for the first time administered in the Massachusetts General Hospital, and the very sponge which was then used is still a precious trophy of that hospital. The news of the discovery spread like wild-fire over the whole civilized world, revolutionizing the methods of surgery. Prior to that time an operation was attended with horrors that neither patient nor surgeon to-day can conceive. Only the most heroic would submit, and rapidity was the chiefest recommendation that a surgeon could have. With the freedom from pain has come the modern deliberate, careful, painstaking operations, involving minute dissections and the greatest accuracy where a single stroke of the knife may mean life or death.

It is interesting to recall the rapidity with which the number of patients increased. In the five years preceding the discovery of ether, only 184 persons were willing to be operated on in the Massachusetts General Hospital, so that the students and surgeons were limited to an experience of about three operations each month. In the five years following the introduction of ether there were some eight or nine operations a month; while last year, in the same institution, there were more than 3700 performed.

The discovery of chloroform, by Sir James Y. Simpson, of Edinburgh, in 1847, and the use of local anesthesia during the last few years, has made a surgical operation less painful than a mild attack of illness. Spinal anesthesia, which has been practiced only during the last two years, will probably never take the place of chloroform or ether. Dr. Keen hopes, however, that with the discovery of new chemical compounds the twentieth century will produce the ideal anesthetic, one which will abolish pain and consciousness without danger to life.

Although pain during an operation was completely abolished, yet, as the older surgeons of the country well know, the after-suffering from fever, and the constantly discharging wounds, and the mortality from blood-poisoning, erysipelas, tetanus, and gangrene were as great as ever.

The standard of successful operations has so changed that whereas thirty years ago, before the discovery of antisepsis, when in rare cases a surgeon obtained a primary union without a drop of pus, without fever and with but little suffering, it was considered a marvelous achievement, now it is precisely reversed, and the surgeon who does not get primary union without a drop of pus, with no fever and with little suffering, asks himself: What was the fault with my technique? Dr. Keen says, in a panegyric of praise for the discoverer of antisepsis, that when the International Congress of Berlin, and the British Medical Association in Montreal, welcomed Lord Lister with cheer after cheer, it was but a feeble expression of a gratitude that no words could express.

Lord Lister's discovery was but the beginning of the work which laboratory investigation has furthered. Bacteriologic research has been of as great import to surgery as to medicine; and the discoveries, especially along the line of wound infection, have led to the technique of the modern operation as regards instruments, care of the hands and dressings.

Among the discoveries that American surgeons are proud to attribute to their countrymen, may be mentioned those in surgery of gunshot wounds, the most astonishing record being, perhaps, that of Flührer of New York, who reported a case where the ball entered at the forehead and traversed the entire brain, yet the patient recovered.

Willard Parker of New York was the first to make the profession listen to him when he urged that abscesses appearing above the right groin should be operated on and the patient's life saved. His operation for appendicitis, which has arisen to such prominence, has saved the majority of patients who thirty years ago would have died of localized peritonitis. Until 1885

1. N. Y. Sun, Feb. 3.

it would have been thought fatal to operate on perforating ulcer of the stomach. In an inaugural dissertation by Tinker of Philadelphia, 232 cases of such perforating ulcer were reported, of which 123 recovered after operation, whereas formerly the mortality of the disease was 100 per cent. The operation of ovariotomy had its rise in America. Ephraim McDowell, of Kentucky, in 1809, was the first to perform it, and Washington L. Atlee, of Philadelphia, and his brother, were the ones to place it on a firm foundation. Their mortality was about one out of two; but to-day, owing to the improvement introduced by antiseptic methods, the death-rate is seldom over 3 per cent.

An incidental but very important cause of the advance of surgery has been the increase in journalism and the formation of societies. Every successful operation along new lines is immediately reported, and its technique is spread abroad, calling forth comments and improvements from other surgeons, so that by mutual co-operation the skill of American surgeons has reached a very high rank.

Almost as the last word of the century, on the subject of surgery, was being said, the Roentgen ray appeared, illuminating the hidden parts of the human frame and opening a new and undreamed of method of diagnosis. So in the light of such an unexpected discovery we do not hesitate to hope, with Dr. Keen, that the surgery of the twentieth century may as completely outshine the surgery of to-day as that of to-day outshone that of thirty years ago.

ACUTE POST-OPERATIVE DILATATION OF THE STOMACH PRODUCED BY THE SUPERIOR MESENTERIC ARTERY COMPRESSING THE DUODENUM.

Acute dilatation of the stomach following operations may become the cause of death. Referred by some to central or peripheral nervous disturbances, by others to muscular paralysis and to the influence of the anesthetic, the observations of Kundrat, Schnitzler, Albrecht, and P. Müller show that in many such cases it undoubtedly concerns compression of the duodenum at the duodenojejunal junction by the superior mesenteric artery, as described by Rokitansky as long ago as 1845. Albrecht collected 19 cases of this kind from the literature, six of them developing after narcosis. P. Müller[1] refers to five additional cases. He describes two typical new ones with autopsy, and two others in which therapeutic measures appear to have been successful in saving life. The post-operative dilatation may follow operations of any nature, but occurs most frequently after laparotomy. The symptoms may set in immediately after the operation and, unless overcome, they lead to death in from two to five days; very rarely the onset takes place some days after the narcosis. The predominant symptom is profuse vomiting of fluid mixed with bile, but without feculent character. The abdomen is at first usually not distended, and commonly there is no tenderness; thirst is marked. Because the intestinal canal is usually empty there are no passages and no flatus. These and other symptoms are, of course, not diagnostic of any one condition, but add now the presence of a dilated stomach—and dilatation may be readily made out by the usual methods—and certainly the symptom-complex becomes very significant. A brief consideration of the consequences of duodenal occlusion below the biliary papilla will explain the symptoms. The post-mortem findings are said to be typical: great dilatation of the stomach and duodenum, the superior mesenteric artery being tense and compressing the duodenum, but without producing distinct circulatory disturbances; the empty small intestine is always found in the pelvis, the mesentery being stretched. In Müller's cases the gastroduodenal contents had been forced into the gall-bladder and up into the liver, whose function was thus suspended. Experiments have shown that traction on the mesentery, toward the pelvis, causes occlusion of the duodenum, especially in thin persons. When the small intestines sink down into the pelvis, the mesentery is folded together like a fan, and its length is probably the decisive factor in causing compression, the shorter the mesentery the greater the danger. And as the dilatation of the stomach increases the small intestine is hindered from leaving the pelvis. The complicated anatomical and mechanical factors that enter into this *circulus vitiosus* probably merit further experimental study.

Up to this time the diagnosis of duodenal occlusion under these circumstances has been made three times during life, first by Schnitzler, while Müller now describes two cases. In all three the threatening symptoms were relieved quite promptly and completely by placing the patient in the prone position with elevation of the pelvis with or without emptying and washing out the stomach. Undoubtedly further experience will lead to the establishment of more definite rules for treatment which, naturally, in some cases may have to be operative. The opinion has been ventured that post-operative duodenal compression is not so very rare; spontaneous cure may take place in many cases, in others relief follows lavage of the stomach, in still others the symptoms are attributed to the effects of the anesthetic, and perhaps some are regarded as instances of peritonitis. Suffice it to say that long persistence of post-operative vomiting should direct attention to duodenal occlusion.

1. Deutsche Zeitschr. f. Chir., 1900, lvi, 487-511.

THE DEFINITION OF THE "PRACTICE OF MEDICINE."

The essential part of any medical practice act, apart from its enacting clause and the penalties, is the definition of the phrase, "practice of medicine." Ambiguity or incompleteness in this nullifies or renders inefficient the law itself, and some of the measures enacted have suffered from this defect. A bill is now before the New York legislature to amend the medical practice law by adding the definition, which it seems was lacking, and the strictness of the definition attempted will be manifest. The amendment, as reported, reads: "Any

person shall be regarded as practicing medicine within the meaning of the act, who shall prescribe, direct, recommend, or advise, for the use of any person, any remedy or agent whatsoever, whether with or without the use of any medicine, drug, instrument or other appliance, for the treatment, relief or cure of any wound, fracture or bodily injury, infirmity, physical or mental, or other defect or disease. This article shall not be construed as prohibiting the service of any person in an emergency, or the domestic administration of family remedies, nor shall it be construed to affect commissioned officers serving in the United States army, navy, or marine-hospital service, while so commissioned, etc."

If we were to criticise this definition, we should say it was too elaborate and comprehensive on the one hand; even the simplest friendly advice in regard to health could be construed as unlawful under its provisions. On the other hand, any more liberal construction might open the way to a laxity that would seriously impair the usefulness of the law. It is not generally advisable to enact laws that it is understood are in the whole or in part likely to pass into innocuous desuetude, to use an often quoted term. The definition of the Georgia medical practice act meets this difficulty in one way and appears in most respects quite satisfactory. It says, *Sec. 1478:* "Practice Medicine Defined.—For the purpose of this chapter, the words 'practice medicine' shall mean to suggest, recommend, prescribe or direct, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the cure, relief, or palliation of any ailment or disease, of the mind or body, or for the cure or relief of any wound, fracture or other bodily injury or any deformity, after having received or with the intent of receiving therefrom, whether directly or indirectly, any bonus, gift or compensation." This seems to cover very nearly every demand and, by inserting the element of compensation in the definition, is free from the objection above noted. Whether or not it leaves a chance for some lawyer to make a hole in the law, it might be presumption to say, but it hardly appears so to a non-legal mind. After all, it is an open question whether the simpler definition of the Nebraska law is not better than these more elaborate attempts and just as effective: "Any person shall be regarded as practicing medicine within the meaning of this act who shall operate or profess to heal or prescribe or otherwise treat any physical or mental ailment of another." The supreme court of that state has twice passed upon this law, once when it decided that the practice of a "Christian scientist" came within the definition, and recently,[1] when it decided that the practice of so-called osteopathy also was within the meaning of the act. The courts could hardly construe this as covering any simple friendly counsel as quickly as they might the more particularized definition of the New York law, while it is nevertheless complete enough to cover all bona-fide attempts at practicing medicine. It would, moreover, it seems to us, be less likely to stir up opposition and attempts to destroy the law through the courts, than would the more particularized definition proposed in New York. A law that too openly tempts an interpretation that it forbids the application of a porous plaster or the fitting of a crutch seems like a *reductio ad absurdum* to the average layman, and may easily be so taken by a judge or jury. The wisdom of the serpent and the harmlessness of the dove are especially needed in framing laws that strike so many interests as do those directed against quackery.

1. JOURNAL A. M. A., XXXV, p. 1578.

THE INFLUENCE OF SYPHILIS UPON THE MORTALITY OF THE LIFE-INSURED.

The opinion that syphilis plays an important part in the production of chronic diseases of internal organs, largely abandoned through the influence of Hunter, came to the fore once more through the work of Virchow in 1858, "On the Nature of Constitutional Syphilitic Affections." Since then the importance of syphilis has become recognized more and more. Specific diseases of the bones, the nervous system, the liver, and other organs, have been studied carefully. Heubner's work in 1874, "On the Luetic Diseases of the Cerebral Arteries," has been of signal value, because it laid the foundation for the study of syphilitic disease of the vessels in general and the various serious pathological conditions resulting therefrom in the brain, the heart, and the large vessels. We know now only too well that syphilitic meningitis and cerebral gummas, softening of the brain, and coronary disease may develop years after the infection. General paresis, arteriosclerosis and aneurysm are also regarded as having often a syphilitic basis, general paresis in the opinion of many being always a luetic result. In few diseases has the practical value of pathological anatomy received better illustration than in the case of syphilis. Deprived of the aid obtainable from the demonstration in a suspected lesion of the specific etiologic agent, investigators have been forced to rely upon the character of the anatomical changes in order to differentiate syphilitic from other and often strikingly similar lesions. And it is not impossible that on account of the natural limitations of this method the knowledge of luetic manifestations may have suffered. Nevertheless, a mass of information has accumulated and by following certain broad lines of inquiry it is generally possible to reach fairly definite conclusions in regard to some of the questions here broached.

Thus Runeberg,[1] of Helsingfors, studied the influence of syphilis upon the death-rate of the insured in a company whose applications, death-certificates, etc., he could use for this purpose; information was secured also from the physicians and the relatives, especially in cases of death from general paralysis. Between 1875 and 1897 there were 734 deaths, 11.4 per cent. of which

1. Deutsches Med. Woch., 1900, 18-20.

—or 84—are referred to syphilis, 21.3 per cent. to tuberculosis, and 10 per cent. to pneumonia. There were 22 general paralytics among the 84 cases referred to syphilis, and in 16 of these a definite history of syphilitic infection was obtained; 31 of the 84 succumbed to heart disease; 21 to brain and cord diseases; and 3 to chronic nephritis, etc. In most of these cases syphilitic infection could be traced directly. In 69 cases the period between infection and death averaged 20.2 years, the average age of the whole 84 being 43.4 years, and the average time between the issuance of the policy and death 8.1 years. The same company, during the period of 1874 till 1895, accepted 11,359 applicants; of these 619 acknowledged syphilis, and the deaths of this group were 78, or 12.6 per cent., while of the remainder, 656, or 6.1 per cent., died. Runeberg is of the opinion that at least 25 per cent. of deaths from heart disease, hemorrhage into the brain, and cerebral softening in persons under 50 without distinct specific history should be placed at the door of syphilis. These figures, although small, throw a strong light upon syphilis as an etiologic factor in fatal diseases of the vital organs. There is no question in regard to accuracy and careful handling of the figures. The articles also contain much of interest to the experts in insurance.

INFLUENCE OF INANITION ON THE INFECTION WITH THE COLON BACILLUS.

The many and various factors that favor or oppose infections are imperfectly understood. The complexity of many processes that enter into the consideration of such questions makes it difficult to give any radical explanation of the various phenomena, clinical and experimental, observed in this interesting field. Roger and Josue[1] starved rabbits for five to seven days and then allowed them to feed for seven to eleven days, when they were infected with the colon bacillus. The animals that had fasted withstood infection much better than the controls. Here it appears that the resistance to infection is rapidly increased after fasting, increased above that of the average normal animal. Conditions similar to this may explain the apparently contradictory results often seen in the study of the reaction of animals to infections. The authors also suggest that religious fasts, undertaken as spiritual discipline, for similar reasons may be of hygienic importance considering the circumstances under which voluntary abstinence from food is often practised.

THE APPENDIX VERMIFORMIS.

The generally accepted teaching and popular belief that the appendix is simply an evolutionary remnant appears to be contradicted to some extent by some recent researches. At the meeting of the British Royal Society, December 3, last, Dr. R. J. A. Berry reported that, from a microscopic study of certain vertebrates—rabbit, cat, pigeon—he found a marked accumulation of lymphoid tissue at the cecal apex, reaching its maximum development about one week after birth. In a general way he found the presence of this sort of tissue the characteristic feature of this region, and in the vertebrate kingdom generally, he stated that such an accumulation of lymphoid tissue represented the appendix. As the scale is ascended toward the higher vertebrates, this becomes differentiated into a special organ, the appendix, which is therefore not a mere vestigial structure, but a specialized part of the alimentary canal. If this be the case, however, it does not necessarily follow, from what he tells us, that the appendix in man is not a vestigial remnant, though his reported findings cast a little cloud in its title as such. It is just possible that even in man it may yet have a slight useful function, but one that is badly overweighted by the occasional disadvantages from its presence in the organism.

1. La Semaine Médicale, 1900, No. 29.

HAVANA'S HEALTH FOR 1900.

The report of the chief sanitary officer of Havana, Cuba, Mayor W. C. Gorgas, for the year 1900, contains some interesting data, and shows a very creditable state of affairs from a health point of view. The annual death-rate is the least that has been reported for the decade, the lowest previous one, that for 1893, having been 38.68 per thousand, while for 1900 it was only 24.4, which is not a high figure for a tropical city. The existence of yellow fever to some extent was to be expected, and during the past year it found specially favorable conditions for its spread among the 24,000 immigrants, most of whom were non-immune. Still, it was kept well in hand; of the 920 Spaniards stricken, the percentage of deaths from the disease was only 26.3, while among the 235 Americans it was only a little more than one-half as great. The epidemic, if it can be called by that name in a city that is rarely free from the disease, was not a formidable one, and evidently had but a slight influence on the general mortality ratio. Tuberculosis in Havana was nearly four times as fatal as yellow fever, and caused over one-seventh of the total mortality, thus showing that it is as little controllable there as in more temperate climates. Another disease, fortunately rare elsewhere—tetanus—caused more than half as many deaths as yellow fever, and is responsible for over 3 per cent. of the total mortality. The report is a most creditable showing of the sanitary management of very difficult problems under the military control of the United States.

THE PRESS AND QUACKERY.

The public press can do much to show, in their true colors, the characters of the various charlatans who prey upon the public. Often, however, the press is subsidized in an advertising way, though occasionally we find a publication rising above this. During the past few weeks a "divine healer" has located in Cincinnati, Ohio, with a corps of assistants, the latter of whom seem to have been injected with the "divine fluid" by the head "healer," for when trade was brisk or the exigencies of weather such that the "doctor" demurred about going out, one of the assistants was sent to answer calls, and it is said at the rate of $5 a visit. The *Cincinnati Post*, in order to investigate the claims of the "healers," sent a reporter with instructions to feign some illness in

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order to gain admittance, but as every one who applies is "treated" for a "trifling consideration," this proved to be a matter of very little difficulty. The experiences of the reporter have been published in detail, and among other things, indicate that the chief assistant has followed, at one time or another, almost every known profession, his immediately previous efforts having been directed to the stage, in the way of illustrated songs. After exposing a number of so-called cures, the reporter states that, on leaving the institution, she was asked for a testimonial, which the *Post* published, as follows: "To Dr. . . . . Having entered the . . . . . Institute in perfect physical condition, without an ache or pain, the managers of the institution were kind enough to supply me with a varied and choice assortment of ailments for which I paid the very reasonable sum of $21. I can recommend your heelers to all seeking a fine collection of diseases at a nominal price. Yours for health, J. M. P." The entire matter was treated in a half serious, half cynical style that will undoubtedly appeal more to the public at large than a library of abuse, and it is to be hoped that other newspapers will be stimulated to efforts along the same line. At any rate the profession of medicine owes hearty thanks to the *Post* for its aid, and the laudable attempt to purge the city of the human sharks who have been so long allowed to gorge themselves upon their innocent and gullible victims.

PROPER AND IMPROPER METHODS OF CLEANING PUBLIC BUILDINGS AND CONVEYANCES.

Often the more or less elaborate process of cleaning of rooms and conveyances becomes a means of dissemination of bacteria-laden dust rather than of removal of dust and dirt. In many cases one may very readily convince himself that the cleaning merely disturbs the accumulated dust, which soon settles down again upon the very articles and floor just dusted. This improper method of cleaning is seen only too often in public buildings and public conveyances as well as in private houses. The question has been subjected to a scientific inquiry by Elmer W. Firth, sanitary engineer, who conducted a series of experiments upon micro-organisms in the air of public buildings and conveyances as the result of improper methods of cleaning.[1] He points out that correct cleaning is based on certain principles, among which may be mentioned the following: Absorbent floor materials should not be allowed to conceal dust and dirt; non-absorbent flooring should be used in public places; this means the removal of carpets from churches and theaters and of fiber mats from cars and boats; linoleum and rubber mats may be substituted. Damp sawdust on floors is useful for retaining some of the dust raised in sweeping. Dust and organisms suspended in the air after sweeping settle more quickly in a closed room than in a ventilated one. Strong currents may keep organisms in suspension for a long time unless the draught passes directly through the room. For these reasons sweeping and dusting in public places should be done at such times as to allow settlement of the dust before occupancy. Dry sweeping and dusting are condemnable and should never be allowed in the presence of numbers of people. Absolute removal of the solid impurities of the air that settle in all buildings, and of the dust after sweeping, is best accomplished by the use of damp cloths, and frequent mopping and washing are necessary. As dampness is to be avoided, wooden flooring should be substituted with stone or tile. The material accumulated in cleaning should be destroyed or disposed of in such a way that "it will not be merely a nuisance transferred to another place," which is the great objection to many methods of cleaning.

1. Studies from the Dept. of Pathology, College of Physicians and Surgeons, Columbia Univ., N. Y., 1899-1900.

THE DUTY OF THE PHYSICIAN TO THE STATE.

While the political atmosphere in some of our large American cities and states is not of the most respirable character, there are indications that the majesty of the law is not held at too low an estimate. Every now and then evidence is afforded that the courts are not inclined to look upon the acts of the medical man with the liberality and consideration to which his profession would seem to entitle him. Only recently a judge in an eastern city, in remitting the fine imposed upon a physician for contempt of court, because he was late in answering a subpena, by reason of attendance on a patient seriously ill with diphtheria, is quoted as saying that "it were better that the patient should die than that the Commonwealth's witnesses should place themselves in contempt of court." We are sure this new judgment will not receive universal acceptance, either by the bench, the bar, the medical profession or the laity. The physician's occupation is not a business in the ordinary sense of the word, and it would bode ill for the entire fabric of society if, in any case of gravity, particularly in the existence of an emergency, he were compelled to yield the welfare of his patient to his obligations to the state. The state is at best but the aggregation of its citizens, and it has no right, by arbitrary methods, to jeopardize the life of a single one of its constituents. On the contrary, there is an indissoluble bond between the two, each of which must recognize the prerogatives and the privileges, not less than the duties and the obligations of the other. We think it will by common consent be agreed that the first obligation of the physician is to save life and relieve suffering. Only after he has fulfilled this requisition can he devote himself to his duties to the state. That this is sound doctrine, not alone in theory, but likewise in practice, the experience of the centuries amply demonstrates. But it is by no means implied that the physician is justified in any degree in neglecting or shirking his obligations to the state. On the contrary, these are not less incumbent on him than on other citizens; but when it comes to the question of whether he shall jeopardize the welfare of his patient to obey the summons of the court, we are sure that there will ever be but one decision.

TEACHING AND DIAGNOSIS OF TYPHOID FEVER.

In his recent paper before the Philadelphia County Medical Society, "On Perforation and Perforative Peritonitis in Typhoid Fever,"[1] Osler makes a few remarks

1. Phila. Med. Jour., 1901, Jan. 19, p. 116; THE JOURNAL A. M. A., p. 346.

concerning certain aspects of the treatment of typhoid fever that should receive the respectful attention of the medical profession. In order that the death-rate from typhoid fever may reach the lowest possible point a practical, first-hand knowledge of the disease in all its manifestations is requisite. The senior students should, he urges, see typhoid patients day by day and watch their progress from week to week. That this is not done very generally is known only too well. That there are cases enough in the large cities to provide instruction of this sort is not to be doubted; but such instruction is not given because the courses are not so arranged and because the medical schools have not proper control of the hospital facilities. Brilliant lectures on typhoid fever are given, recitations are held, books are read, and cases are shown in the amphitheater, but typhoid fever is not learned satisfactorily in that way. And this is shown by the experience in the last war. "The worst indictment," says Osler, "ever brought against the medical schools of this country is contained in the report by Reed, Vaughan, and Shakespeare on the prevalence of typhoid fever during the Spanish-American war. Shades of W. W. Gerhard and of Austin Flint! The young doctors, to whom were entrusted scores of valuable lives, had practically not gotten beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50 per cent. were diagnosed by the regimental or hospital surgeons." In 80 of 85 cases sent to civil hospitals in Baltimore the diagnosis was changed from malaria to typhoid. Similar instances occurred elsewhere. The authors of the report mentioned venture the statement that the army surgeons probably did better than the average physician in his private practice. Whatever the truth may be, this is but a lame and impotent apology that emphasizes still more the need for different and better methods of teaching. Men like Osler render the profession great service by courageously speaking their minds on topics of such basal import as this.

Medical News.

ALABAMA.

Smallpox is spreading in and around Huntsville. Cases have been reported in the city, West Huntsville, Dallas, Meridianville and Madison.

Dr. Thomas W. Ayers, Anniston, has given up his practice and will start with his family for China, sailing from San Francisco, March 15. He goes out as a medical missionary under the auspices of the Southern Baptist Board, and will be stationed at Hwang Hi-en, North China.

Hillman Hospital, Birmingham, has appointed the following medical staff: Medical—Drs. Cunningham Wilson, Thomas D. Parke, Baxter Rittenberry, John W. Barclay, Charles Brenand, and Robert V. Mobley; surgical—Drs. Benjamin G. Copeland, William P. McAdory, Charles Davis, William H. Wilder, Edward P. Riggs, and Lewis C. Morris.

Opposition to discrimination in favor of Mobile Medical College is the cry of the State Medical Association and of the Jefferson County Medical Society. They consider that to allow the graduates of the Mobile Medical College to practice medicine in Alabama without undergoing the usual examinations before the state or county boards would be unfair to the Birmingham Medical College and the graduates of the leading medical colleges of the North and East, and would lower the standard of the profession in the state.

CALIFORNIA.

Visalia has appointed a new board of health, of which Dr. F. A. Combs is president.

San Francisco's mortality in December was the largest in its history—680 deaths. A large percentage were from la grippe, or pneumonia, exhaustion, etc., following that disease.

Visalia Sanatorium, which was not yet completed, but was to have been opened February 15 by Drs. Thomas O. McSwain and William W. Cross, Jr., was destroyed by fire January 25.

Diphtheria has broken out in the City and County Hospital, San Francisco. Two nurses, one physician and one inmate have the disease, and a number of patients with sore throats are isolated and under suspicion.

Clara Barton Hospital, San Francisco, has been incorporated by Drs. J. Henry Barbat, George H. Evans, Edward G. Frisbie, Charles A. Dozier, Elmer E. Kelly, Henry B. A. Kugeler, and Frank B. Carpenter. A lot for the new institution has been selected and a building to cost not less than $50,000 will be erected.

DISTRICT OF COLUMBIA.

The remains of Major John G. Davis, surgeon, U. S. V., who died in Manila, November 1, were buried with military honors in the National Cemetery, Arlington, January 16.

Dr. Alonzo B. Richardson, Washington, superintendent of the Government Hospital for the Insane, has been elected to the chair of mental diseases in the medical department of the Columbian University.

The Episcopal Eye, Ear and Throat Hospital, Washington, recently elected Dr. E. Oliver Belt secretary of its board of governors, re-elected the assistant and attending physicians, and also elected Dr. John B. Nichols pathologist.

Health office changes at Washington include the withdrawal of Dr. Lewis J. Battle, inspector of smallpox service; the transfer of Dr. Creed W. Childs to the smallpox inspection and the assignment of Dr. Uriah J. Daniels to duty as physician to the poor.

The Indigent Insane.—Providing a bill submitted to Congress be passed, this class will hereafter be admitted to the Government Hospital for the Insane, on petition of the Commissioners of the District filed in its supreme court, which court shall issue a writ *de lunatico inquirendo*, whereupon the marshall shall impanel a jury from the jurors in attendance on the criminal courts, who shall perform this duty in addition to their duties in the criminal court.

ILLINOIS.

Dr. Edward Bowe, Jacksonville, was appointed county physician of Morgan County, January 25.

Dr. James Selkirk has been elected to the Aurora Hospital board, in place of Miss Nellie Higgins.

Dr. Elnathan P. Hathaway, Ottawa, has been appointed a member of the board of pension examiners, to succeed Dr. J. J. Taylor.

Bills have been introduced in the legislature appropriating $383,100 for the Illinois Northern Hospital for the Insane at Elgin, and $490,600 for the Illinois Southern Hospital for the Insane at Anna.

Silver Cross Hospital, Joliet, is raising the $4000 required to make John Lambert's offer of $500 operative. This is expected to be sufficient to pay all indebtedness and place the institution on an independent basis.

Chicago.

Dr. Christian Fenger has gone to the Gulf Coast for a month.

Dr. Nicholas Senn has returned from his vacation trip to Central America.

Lull in Smallpox.—The grave apprehensions caused by the discovery of thirteen cases of smallpox in one day have not been realized, and the situation at present is reassuring, no new case having been detected during the first four days of this week. The record of no case among the recently vaccinated is still unbroken, and this lesson, upon which too much stress can not be laid, is causing a resort to vaccination on a scale that is the best assurance against any serious epidemic spread of the disease.

Public Health Conditions.—As indicated by the bills of mortality the public health conditions maintain the improvement noted in the bulletin of the health department of two weeks ago. There were 32 fewer deaths reported for the week ended February 2 than for the week before, and 54 less than for the corresponding week of 1900. The death-rate among the aged, however, still continues high—23 per cent. of the total, as against a normal 20 per cent. of those over 60 years of age, and

this notwithstanding a reduction in such diseases as apoplexy, Bright's disease, consumption and nervous diseases. Deaths from uncomplicated influenza have remained nearly stationary in number for a month, and the epidemic has probably reached its height, although its complications will continue to be manifest in the new crop of pneumonia and bronchitis which will follow the snow storm of February 2 and 3.

Attending Staff of Cook County Hospital.—The organization of the attending staff of the hospital for the ensuing term of two years, occurred January 31. Dr. Denslow Lewis was re-elected president and Dr. L. Blake Baldwin secretary. The executive committee consists of: Dr. Arthur R. Edwards, chairman; Dr. Charles F. Swan, secretary, and Drs. William E. Quine, James B. Herrick, John P. Webster, Orville W. MacKellar, Mary Jeannette Kearsley and the president and secretary ex-officio. The staff is constituted as follows: Surgeons, Drs. Denslow Lewis, Charles F. Swan, Leonard St. John, Weller Van Hook, C. Pruyn Stringfield, William E. Schroeder, Wladyslaw A. Kuilewski, John B. Murphy, Thomas A. Davis, John Leeming, Frederick S. Hartman, Edward L. Moorhead, Albert I. Bouffleur, Charles Davison, Samuel L. Weber, John W. Tope of Oak Park, Daniel H. Williams, Aime P. Heineck, Francis W. McNamara, Orville W. MacKellar, Daniel N. Eisendrath, Frank R. Byrnes, Gerhardt S. Seim of Blue Island, John P. Webster, A. E. Halstead, Herbert R. Hammond, Robert A. Letourneau, Thomas J. Conley, Edward H. Lee, and Mary Jeannette Kearsley; physicians, Drs. Frank Billings, Arthur R. Edwards, James B. Herrick, Charles C. O'Byrne, E. Fletcher Ingals, William E. Quine, B. McPherson Linnell, John A. Robison, Florence W. Hunt, Thomas A. Noble, J. H. Dolamore, Robert H. Babcock, Robert B. Preble and Arthur E. Price; pathologists, Drs. Ludvig Hektoen and William A. Evans; dermatologists, Drs. L. Blake Baldwin and Maurice B. Sincere; obstetricians, Drs. Effie L. Lobdell and Frank B. Earle; diseases of children, Drs. Frank S. Churchill, Josephine A. Jackson, William J. Butler and Isaac A. Abt; ophthalmologists, Drs. Allen T. Haight and J. G. Huizinga, and nervous diseases, Drs. Sanger Brown and Daniel R. Brower.

KENTUCKY.

Paduca's Board of Health met for reorganization January 17 and elected Dr. W. T. Graves, president.

Dr. Edward N. Simpson, Milldale, has been appointed physician of Kenton County, in place of Dr. William F. Cook, deceased.

The decision of Judge Toney, against "Dr." Harry Nelson, in a suit to compel the State Board of Health to license him to practice osteopathy, has been reversed by the Court of Appeals.

Reporting Smallpox.—The Board of Health of Lexington has adopted resolutions to the effect that, in the future, regular weekly statements of the presence of smallpox shall be published over the signature of the president of the board, and that a warrant shall be issued against any physician failing to report a suspicious case.

LOUISIANA.

Dr. Oscar Czarnowski, New Orleans, was robbed of jewelry, valued at $1000, by burglars, January 22.

Dr. William P. Brewer, New Orleans, has been elected president of the Association of the Army of Northern Virginia, and Dr. Felix Formento, also of New Orleans, secretary.

The suit involving the position of health officer of New Iberia has been decided in favor of Dr. William J. Emmer, who will continue as health officer pending appeal and injunction.

The Alumni Association of Tulane University, New Orleans, January 19, elected Drs. Frederick W. Parham and O. L. Porthier to represent the medical department on the executive committee during the ensuing year.

MASSACHUSETTS.

Two Everett physicians were fined $50 each, January 24, for neglecting to report a case of contagious disease to the local board of health.

The new schedule agreed to by the physicians of Gardner became effective Feburary 1, but before that time one of the signers of the agreement withdrew his name, as he said, in justice to a number of his patients and as a matter of business.

The mortality of Worcester for 1900 was 2159, equivalent to an annual death-rate of 18.77 per 1000. The births registered numbered 2223. Lung and throat diseases caused 694 deaths, or 31.21 per cent of the total mortality, while tuberculosis is reported to be the cause of 281 deaths.

MICHIGAN.

The medical staff of St. Joseph's sanatorium, Mt. Clemens, has been organized with Dr. Joseph M. Croman as secretary.

A bill has been introduced in the house of representatives providing for an appropriation of $200,000 for a state sanatorium for the care and treatment of nervous diseases.

Attorney General's Decision.—The attorney-general, to whom was submitted a resolution adopted by the State Board of Health relative to the legality of the action of the Board in appointing its members as State Communicable Disease Inspectors under act No. 47 of the laws of 1893, and to the question of compensation for services thus rendered and expenses thus incurred, has decided that the State Board of Health has no authority to appoint its members as inspectors and the members of said board are not entitled to compensation for services as members of the Board or as inspectors.

MINNESOTA.

Of twenty five candidates who took the recent examination for license to practice in the state, 17 passed and are duly licensed.

A St. Paul physician has had his license taken away by the State Board of Medical Examiners, for violating the Code of Ethics by advertising.

Dr. William S. Fullerton, Winnebago City, has been appointed to fill the unexpired term of Dr. William Corpron, Minnesota Lake, resigned.

Registration of Osteopaths.—A bill has been introduced by Senator Horton, creating a state board of examiners and registration for osteopaths. The bill provides for twenty months of study and the passing of a satisfactory examination, and provides further that the members of this sect shall not prescribe any drugs.

MISSOURI.

In Kansas City, a party who resisted vaccination was fined $10 on January 21.

A St. Louis physician was fined $50, January 25, for failing to report a case of smallpox.

Dr. Zachary T. Martin, Lathrop, has been appointed physician to the penitentiary at Jefferson City.

To Check Smallpox.—The bill passed by the legislature, January 22, relative to the checking of smallpox in the state, provides for a county board of health in each county to be composed of the judges of the county court of each county and a reputable physician to be appointed by them. These county boards of health are to have the same powers within their counties as are given to the State Board of Health within the state respecting quarantine regulations and the prevention of the spread of malignant, contagious and infectious diseases. The board is given power to pay, out of the county treasury, reasonable expenses incurred by it, but it is to have no power to raise a quarantine established by the State Board of Health.

NEW YORK.

Dobbs Ferry is to have a hospital, and steps are being taken to begin the erection at once.

A new quarantine hospital for Buffalo is now a certainty. Its location will probably be outside the city limits on the county farm site.

Dr. Francis M. Deems, now of Flushing, but at one time a well-known physician of Manhattan, sustained a fracture of his hip while getting off a cable car on January 30.

New York's Health.—According to the bulletin of the State Board of Health, there were 128,468 deaths in the state during 1900, which exceeds the previous year by 6647, and the average for the past five years by 8000. It is thought that the influenza epidemic probably added 11,500 to the mortality.

New Garbage Crematory.—The State Board of Health has approved the plans for the reconstruction of their plant in Checktowoga, outside the city limits. The new plant will resemble the old one, destroyed by fire, with the exception of some new modern appliances to facilitate the work of garbage destruction.

Research Work.—A number of prominent medical societies have adopted resolutions urging Governor Odell not to interfere with the important research work that is being carried on at the Pathological Institute of the New York state hospitals, but instead to give it generous support and foster the work already begun.

Overcrowding of Insane.—There is a great overcrowding in all departments of the Manhattan State Hospital for the Insane, there being 6000 patients where not over 5000 can be properly accommodated. The superintendent has called attention to the insufficient accommodation, in his annual reports for the past two years, but relief has not yet come.

Fitch Hospital to Close.—It has been decided, by the hospital committee of the Charity Organization Society, Buffalo, to close the Fitch Accident Hospital, March 1. The hospital has been poorly endowed and the organization believes that there being another emergency hospital in the city, and because of the great cost of conducting it, the funds could be better expended in charity organization work proper for relief and investigation of poor cases.

New York City.

Mothers' and Babies' Hospital.—The directors of this maternity hospital, which has been in existence for over eighteen years, have decided to close the institution after May 1, unless the necessary financial support is forthcoming before that time. The hospital accommodates about 40 in-patients and attends to about 130 cases in the tenements each month.

Mt. Sinai Hospital.—Contributions to the building fund of this institution are coming so satisfactorily that work is to begin on the new buildings at once. There will be, in all, nine buildings, occupying the entire block bounded by One Hundredth and One Hundred and First streets and Fifth and Madison avenues. The total cost is to be $1,600,000, of which all but $225,000 has been contributed. There will be accommodations for 360 medical and surgical cases.

Practice of Midwifery.—Assemblyman McKeown, of Kings county, has introduced into the legislature a bill to regulate the practice of midwifery in New York City. It authorizes the Board of Health to appoint, on or before July 1, a board of examiners in midwifery, consisting of the sanitary superintendent of the board of health, the assistant sanitary superintendents of each borough, and the chief inspector of contagious diseases in the Borough of Manhattan. They are to meet at prescribed intervals, examine candidates and issue certificates to the successful ones, for a fee of $10. They shall have power, after a proper hearing, to recommend to the board of health the revocation of a license. All licensed midwives must register annually at the office of the board of health, before July 1. A fine is to be imposed on all persons practicing midwifery without a license.

Smallpox Among New York Italians.—Smallpox has broken out afresh in this city, in the upper section known as "Little Italy," where the people have made every effort to conceal its existence from the authorities. Of the 38 cases from this region during the past week, not one of the afflicted had been vaccinated. A midnight raid was made by 125 physicians of the board of health and an equal number of policemen, and in this way several cases were discovered and almost every person living in the district was vaccinated. They also found a child who had died of the disease. The fact that smallpox has broken out among these people means that in all probability new cases will soon appear in widely separated parts of the city, because the Italians have been working in all parts, and have had an excellent opportunity to spread the disease.

Grand Jury Findings Against Bellevue.—The grand jury for January has handed down a strong presentment against Bellevue Hospital. After careful comparison of the records of Bellevue and of the Manhattan State Hospital for the Insane, including a valuable collection of photographs belonging to the latter institution, it was found that out of 700 patients sent from Bellevue Hospital to the State Hospital bruises and other marks of bodily injury were found to be present on 250 patients, and the testimony offered convinced the jury that these injuries had not been received while in transit between the two hospitals. The presentment further says: "It is fairly deducible from the testimony submitted to us that in point of fact the medical board is directly and absolutely responsible for the administration of Bellevue. It has not been made clear to us how this state of affairs has been brought about, but it would appear that it has resulted from the gradual and steady encroachment of that body upon the prerogatives of the commissioner of charities and the superintendent of the institution." Regarding the practice of some hospitals of transferring their dying patients to Bellevue Hospital, Superintendent Stewart makes the startling statement: "117 cases of this kind have been reported as occurring within one year." Judge Truax has refused to grant a change of venue in the case of the three former nurses of Bellevue now under indictment for having caused the death of Louis Hilliard in the insane pavilion.

NORTH CAROLINA.

New Hospital and Training School.—The H. J. Reynolds hospital and training school for nurses at Winston-Salem, has raised more than $4000 for the $5000 required to secure the $5000 offered by Mr. Reynolds, and it is expected that the building will be erected immediately. There is urgent need of such an institution for colored persons in the locality, and both white and colored appear equally interested in the project.

OHIO.

Dr. Lewis A. Molony, late surgeon, U. S. A., has returned to Cincinnati.

Another arrest at the instance of the Ohio State Board of Medical Registration has been made in Cincinnati, for the practice of medicine without having been registered in the state.

OREGON.

Osteopaths, according to press reports, are not to be granted certificates to practice in Oregon, by the State Board of Medical Examiners.

Bills creating a state board of health and changing the present system of conveyance of the insane to asylums are to be introduced to the coming session of the legislature.

PENNSYLVANIA.

Higher Medical Education.—The State Medical Council, at its winter meeting, adopted a standard of such a degree that it would comply with the high requirements now in vogue at the University of Pennsylvania and other of the foremost medical colleges. The curriculum provides for "four years of exclusive medical study." The Council is making an effort to influence legislation at Washington, toward passing a law which shall be of national scope.

Philadelphia.

Bequests of $10,000 have been left to both the St. Joseph's and St. Mary's hospitals.

Dr. George W. Pfromm has been appointed chairman of the Physicians' Board of Civil Service Examiners, to succeed Dr. J. H. Anders, resigned.

Dr. Simon Flexner has been appointed pathologist of the Pennsylvania Hospital, and director of the Ayer Clinical Laboratory, to succeed Dr. H. W. Cattell, resigned.

SOUTH DAKOTA.

Vaccination Law Valid.—According to press dispatches the recent decision of the supreme court in the case brought by the Board of Education of Lead, against George W. Glover, involving the power of the board to exclude a pupil from school for refusing to be vaccinated, is that the boards of education and health departments have power to order vaccination and to exclude from school those who refuse to comply with the order.

WISCONSIN.

The State Board of Medical Examiners, at its meeting in Milwaukee, in January, passed favorably on 74 applications for license to practice, about twenty applications being held over.

An osteopath, of Waukesha, who was convicted, January 3, of illegal practice of medicine, has been fined $25 and costs. He expects to appeal and to demonstrate in a higher court the unconstitutionality of the state law.

Marinette's physicians are said to have banded themselves together and passed resolutions asking the city council to raise the annual salary of the health officer from $200 to $1000, and that he be nominated by the physicians. They have also pledged themselves individually not to accept the office unless these terms are accepted.

CANADA.

Montreal's deaths numbered 150 last week. Scarlet fever claimed 20 victims and la grippe 6.

Diphtheria, during the month of January, numbered 169 cases in Toronto, with 20 deaths.

Dr. J. G. McDougall, Amherst, N. S., has been appointed provincial examiner in anatomy in connection with the Medical College of Halifax, N. S.

Ottawa's Board of Health have recommended to the Council that the resignation of all its sanitary officers, including that of the health officer be requested.

Montreal's civic hospital is very much overcrowded, and in order to assist the physicians in charge Dr. Charlton, of the Royal Victoria, and Morin, of the Laval University, have volunteered their services.

Tribute from McGill.—On the morning of February 1, the medical students of McGill, to the number of 500, and the entire medical faculty, marched to the Queen's statue to do honor to the memory of their beloved sovereign. Four students headed the procession, bearing on their shoulders a large cushion of natural carnations. Amid a profound silence, as the faculty and students gathered around the statue, the four

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students advanced and laid the cushion at the foot of the statue. The cushion was in the form of the star of the Order of the Garter; and the design, including the motto—*Honi soit qui mal y pense*—had been worked out in carnations, violets and daffodils. Attached to it with McGill ribbons was a card bearing the words: "A token of life-long veneration and esteem from her loving and faithful subjects, the McGill medical students."

Royal Victoria Hospital, Montreal.—The annual meeting of this institution was held last week, and a resolution passed referring to the death of Her Majesty, Queen Victoria. The following new appointments to the medical staff were made: Clinical assistant in medicine, Dr. W. S. Morrow; in neurology, Dr. A. Shirres; in surgery, Dr. E. W. Archibald; in ophthalmology, Dr. F. W. Harvey; in laryngology, Dr. W. H. Jamieson; assistant in pathology, Dr. A. G. Nichols; in bacteriology, Dr. H. B. Yates; director of clinical laboratory, Dr. A. A. Bruere. The superintendent's report showed that 2619 patients had been admitted to the hospital during the year. Of these, 1604 were Protestants, 964 Roman Catholics, 34 Jews and 17 of other faiths; 1469 were free, 741 public ward patients, paying 50 cents a day, and 409 private patients; 2006 were residents of Montreal, and 613 were sent from the country districts. There were 82 more entered than for the previous year. On Jan. 1, 1900, there were 157 remaining in the hospital; and during the year 2582 have been discharged, of whom 1420 were cured, 698 improved and 172 unimproved, 164 not treated, 128 died, and 194 remained in on Dec. 31, 1900. Of the 128, 29 died within forty-eight hours of their admission. The death-rate for the year was 4.95 per cent., or, if those dying within forty-eight hours after admission were deducted, the death-rate would have been 3.83. The total cost per day per patient has been $1.47 as against $1.55 last year; the cost per day of maintaining each person in the hospital, staff, servants and patients, being 82 cents. The income for the year was $129,570.34, and the ordinary expenditure amounted to $99,208.62, the balance of $30,361.72 being applied toward the cost of the new out-patient department, and the power-house and laundry building. It was announced that plans have been prepared for a pavilion for the isolation of infectious diseases, and it is proposed to proceed at once with its erection.

FOREIGN.

In Vienna the appointment of medical inspectors for schools is being considered.

Dr. Hahn has been sent by the Munich university to study the plague in Egypt and India.

A new journal of hypnotism has commenced publication in France, the *Mouvement Psychique*, the official organ of the Paris Institute of Psychical Sciences.

Professor Behring is recipient of a title of nobility, conferred on the occasion of the 200th anniversary of the Kingdom of Prussia.

Among the deaths abroad occur the names of Dr. A. Spengler, of Davos, and Dr. J. Lehmann, of Copenhagen, the latter noted for his studies in hygiene and tuberculosis.

South American Women Practitioners.—The first woman to take the degree of medicine in Peru is Señorita Laura Rodriguez, who received her diploma in 1900. Ana Galvez, of Bogota, graduated in Switzerland some years ago, and returned to practice in Colombia, where she has acquired a wide reputation for her cures. In Chili, Eloisa Inzunza received her degree in medicine at Santiago in 1887, and has been practising with success ever since, according to the *Cronica Medica*, of Lima.

Tetanus from Anti-Diphtheria Serum.—During the last few months there have been an unusual number of cases of diphtheria in Italy, and antidiphtheria serum has been extensively used, nearly all derived from the Milan Institute of Serotherapy, in charge of Belfanti. According to the *Münchener Med. Woch.*, eight patients in one small town were injected with the serum and were convalescing when, the sixth to ninth day after the injection, symptoms of fulminating tetanus appeared and all but one died. Similar experiences were reported from other points, with a total of thirteen deaths. The boards of health of Milan and Rome met in emergency session, and the institute was closed. The contaminated serum was all of a certain series of 305 vials, delivered November 29, and 230 of them have been recovered, as the prefect of Milan telegraphed at once to all who had purchased the serum. It has been impossible to produce tetanus in animals inoculated with the blood of any of the patients who died, and no tetanus bacilli can be found in the recovered serum. There is no official standardizing of the serum in Italy as in Germany.

The Plague Abroad.—Passed Assistant Surgeon A. R. Thomas, who was detailed by the surgeon-general, U. S. M.-H. S., to investigate the cases of plague reported on board the *Friary*, at Hull, England, has reported that there were five deaths among the crew of that vessel, three of which were undoubted cases of plague as shown by necropsy, while the other two were probably cases, though no necropsy was held in either. The patients had no glandular enlargements, and the symptoms were so like influenza that the first two were thought to be this affection. The ship was 17 days out from Alexandria, Egypt, before the first case developed, but several rats and a cat died aboard ship before it developed. [See also London letter, this week.—ED.] According to the *British Medical Journal*, a case of plague was reported in Constantinople on January 11, and a strict quarantine of twelve days at once ordered on all vessels arriving at the mouth of the Danube from the Turkish capital. Traffic was also suspended on railway lines between Bucharest and the Black Sea ports. Reports also indicate that the disease is prevalent at Smyrna, and that of 14 persons attacked by the disease in one house, 11 died up to January 20. In Hamburg the steamship *Bergamon*, which arrived there on January 15, was placed in quarantine as the rats on board were found infected with plague. In India the deaths from this disease during the week ending January 5 numbered 2298, a marked increase over the corresponding week of last year, when there were only 1370 deaths so registered. More than one-half the number for all India occurred in Bengal, i. e., 1374, and during the week ending January 10, Mauritius reported 20 new cases of plague and 9 deaths, for the succeeding week 15 new cases and 16 deaths. In a report to the surgeon-general, U. S. M.-H. S., from Hongkong, China, Assistant-Surgeon J. W. Kerr reports, for the ten months ended Oct. 31, 1900, 1082 cases of bubonic plague with 1034 deaths. It is interesting to note that of the 6 Europeans attacked by this disease only 1 died. The method of loading ships will give some idea of how easy it is for ships to become infected while in that port. A large part of the cargo is brought direct from Canton, China, in "junks," a sort of house-boat in which the lowest class of Chinese live. From these junks the cargo is carried on the outgoing ship, and in this way can infect the rats on shipboard, or rats from the junks can get aboard. As evidence that these floating homes are infected, numbers of bodies dead from plague have been found floating in the harbor. Only a few days before Dr. Kerr's attention was called to the body of a child lying on top of a buoy in the harbor. And several instances are given where coolies engaged in loading have dropped in the harbor and been drowned, and on bacteriologic examination were found to present evidences of advanced plague infection; they were no doubt ambulatory cases overcome by overexertion.

Queen Victoria's Last Illness.—The following, from the *Lancet* of January 26, is of interest concerning the late Queen: Her health for the past twelve months had been failing, with symptoms mainly of a dyspeptic kind accompanied by impaired general nutrition, periods of insomnia, and later by occasional slight and transitory attacks of aphasia, the latter suggesting that the cerebral vessels had become damaged, although her general arterial system showed remarkably few signs of age. The constant brain work through a long life of royal responsibilities, and the imperial events, domestic sorrows, and anxieties which have crowded into her later years, may no doubt be held in some measure to account for this discrepancy between the cerebral and general vessel nutrition. The thoracic and abdominal organs showed no signs of disease. The dyspepsia which tended to lower her originally robust constitution was especially marked during her last visit to Balmoral. It was there that she first manifested distinct symptoms of brain fatigue and lost notably in weight. These symptoms continued at Windsor, where in November and December slight aphasic symptoms were first observed, always of an ephemeral kind and unattended by any motor paralysis. Although it was judged best to continue the negotiations for her proposed visit to the continent in the spring, it was distinctly recognized by her physicians and by those in closest personal attendance on her that these arrangements were purely provisional, it being particularly desired not to discourage her majesty in regard to her own health by suggesting doubts as to the feasibility of the change abroad to which she had been looking forward. The Queen suffered unusual fatigue from the journey to Osborne on December 18, showing symptoms of nervous agitation and restlessness which lasted for two days, but afterward improved for a time both in appetite and nerve tone in response to more complete quietude than she had hitherto consented to observe. A few days before the final illness transient but re-

current symptoms of apathy and somnolence with aphasic indications and increasing feebleness gave great uneasiness to her physician. On Wednesday, January 16, she showed increasing symptoms of cerebral exhaustion. By an effort of will, however, she would for a time, as it were, command her brain to work and the visitor of a few minutes would fail to observe the signs of cerebral exhaustion. On Thursday the exhaustion was more marked, with considerable drowsiness; and a slight flattening was observed on the right side of the face. From this time the aphasia and facial paresis, although incomplete, were permanent. On Friday she was a little brighter, but on Saturday evening, the 19th, there was a relapse of the graver symptoms which, with remissions, continued until the end. It is important to note that notwithstanding the great bodily weakness and cerebral exhaustion the heart's action was steadily maintained to the last; the pulse at times evincing increased tension, but being always regular and of normal frequency. The temperature was normal throughout. In the last few hours of life paresis of the pulmonary nerves set in, the heart beating steadily to the end. Beyond the slight right facial flattening there was never any motor paralysis, and except for the occasional lapses mentioned, the mind can not be said to have been clouded. Within a few minutes of her death the Queen recognized the several members of her family.

GENERAL.

Plague Investigation in San Francisco.—The recent appointment by the U. S. Treasury Department of Drs. F. G. Novy, of Ann Arbor, Simon Flexner, of the University of Pennsylvania, and L. F. Barker, of the University of Chicago, to investigate the plague in San Francisco has created consternation among those who have been denying the existence of plague there, as is evidenced by the special message presented by the governor to the legislature on the 31st ult. The governor and his medical advisors are said to have cause to fear the result which an independent investigation by such men will bring forth. The "appropriate action" which the governor, "impelled by his sense of public duty," relies on the discretion of the legislature to take, is embodied in three bills which have emanated from his office. The first adds three new sections to the Penal Code. The first section is as follows: "Any person who willfully or maliciously exposes, handles, or otherwise deals with any disease germs, bacilli, cultures, organisms or seeds of disease, or sources from which diseases may be communicated, for the purpose of communicating such disease, or with the intent to spread or communicate any infectious or contagious disease, or who negligently exposes, handles or otherwise deals with the same in a manner calculated to endanger the public health, or to result in the spread of an infectious or contagious disease, is guilty of a felony and on conviction thereof shall be punished by imprisonment in a state prison for a term of not less than one year nor more than ten years, or by a fine of not less than $500 nor more than $5000, or by both such fine and imprisonment." Another new section provided by the bill reads as follows: "Any person or any officer or member of any association, board, committee or corporation who publishes by any writing or printing that Asiatic cholera or the bubonic plague exists, or has recently existed within this state, unless the State Board of Health thereof has first determined such to be the fact and has entered a record of such determination at length upon the minutes of the board, is guilty of a felony." But it is in the second bill that the significant feature of this movement comes prominently into light. In this bill an appropriation of $100,000 is provided to be expended by the State Board of Health, *under the direction of the governor*, for the prevention of the introduction of Asiatic cholera, bubonic plague, smallpox or other contagious or infectious disease within this state, and for their suppression in case of their origin or introduction. It is provided that the claims for expenditures shall be audited by the board of examiners, except when, in the opinion of the governor, "an emergency arises which demands or necessitates the immediate use of the money, and in that case it is provided that the controller must draw his warrant in the name of the governor, without auditing, for sums not exceeding $1000 at any time the governor may direct." The object of the third bill is to center in the governor and the State Board of Health most of the power that now belongs to the local boards, and to reestablish the state quarantine service in San Francisco that has been supplanted by the Federal authorities. The effect on local boards of health will be to practically wipe them out of existence in any case of emergency, or to make them no more than sanitary police to assist the state board. Whenever they find anything they must stand aside, leaving the state board in charge. Orders were given that these bills be rushed through with all possible speed. To further this, type-written copies of the bills were furnished committee members in order that it might not be necessary to await the usual time for printing. [As we go to press we learn that the bill appropriating $100,000 has passed the assembly.]

LONDON.

The Epidemic of Arsenical Poisoning from Beer Drinking.

Though the outbreak of arsenical poisoning due to beer drinking, which occurred principally in Manchester, and to a less extent in Liverpool and others parts of the north of England, and also in some of the midland counties, has not disclosed any new symptom of arsenical poisoning, yet the observations on such a large scale reveal certain facts not at all generally known as to the frequency or otherwise of the symptoms produced by chronic arsenical intoxication. The most valuable contribution on this subject is the paper read by Dr. E. S. Reynolds at the Royal Medical and Chirurgical Society of London. In my last letter Dr. Reynolds' important discovery that the epidemic of "peripheral neuritis" in Manchester was due to arsenic in the beer has already been fully described in these columns. The patients complained of a variety of symptoms, such as pain in the feet and limbs, a feeling of pins and needles, tingling in the soles, general weakness, difficulty of walking, swollen feet, vomiting, and diarrhea. The aspect of the patients was so typical that a diagnosis could be made at sight by those accustomed to see the cases. There was a puffiness, especially about the eyelids, and a deep crimson color of the face. Of the numerous skin eruptions, erythromelalgia was perhaps the commonest. It consisted of painful red swelling of the feet and hands. The erythema was most intense at the edges, the center of the palm being almost exempt. The pain was so marked that the patients could not sleep. The red patches were followed by keratosis of the hands and feet, scales being exfoliated so plentifully that a 2-ounce bottle could be filled in a short time. This keratosis was very important in the diagnosis in fair-haired persons, because in them pigmentation did not occur. If a fair-haired person had such keratosis and peripheral neuritis there was a strong presumption of arsenical poisoning. There were also scarlatiniform and morbilliform erythematous rashes. The first began like scarlatina, with a collaret around the neck. Sometimes there were papular, sometimes vesicular and bullous eruptions. These rashes came on as late as six weeks after ceasing to drink the beer. Pigmentation was very common and the cases showed that the received description is not quite correct. Though some showed islets of normal skin in a generalized pigmentation, such were not always present. In 21 cases herpes was observed in various situations. The heart was very seriously affected. It became dilated and there was sometimes edema of the feet and chest wall. Arsenic was found in the urine in many cases as long as two weeks after ceasing to take contaminated beer. It was also excreted in the milk. In some cases the temperature was elevated.

Appointment of a Royal Commission.

A royal commission has been appointed to investigate the epidemic of arsenical poisoning. It will consist of Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (president of the Royal College of Physicians), Prof. T. E. Thorpe (government analyst), Mr. H. Cosmo Bonsor and Dr. B. A. Whitelegge (H. M. chief inspector of factories). The instructions to the commissioners are to ascertain: 1. The amount of recent exceptional sickness and death attributable to arsenical poisoning. 2. Whether such sickness and death has been due to arsenic in beer or in other articles of food or drink. 3. By what safeguards arsenical poisoning from food may be prevented.

Enormous Pancreatic Cyst Simulating Ascites.

At the Clinical Society, Dr. Sidney Phillips read notes of this case. A man, aged 22, was kicked in the abdomen by a horse. He became subject to attacks of acute abdominal pain, and after five months was quite emaciated and had an enormously distended abdomen, dull everywhere except in the stomach's

area. Ascites with peritoneal adhesions was thought probable. After 145 ounces of clear fluid had been removed by Southey's tubes, without improvement, laparotomy was performed, and a large quantity of fluid, like that of ascites, removed. Death occurred a few days later. The necropsy showed that the fluid had been contained in a thin-walled pancreatic cyst occupying almost the whole abdominal cavity. The cyst originated in the head of the pancreas, with which it communicated by an opening one-sixth inch in diameter. The remarkable point in the case was the unusual character of the fluid, which had a specific gravity of 1002, quite clear, and closely resembled ascitic fluid.

Plague at Hull.

Plague has again visited our shores. This time the important seaport of Hull is the point of attack. A steamer arrived on January 10 from Alexandria, having touched at Algiers on the voyage. Three days before the vessel arrived one of the crew was taken suddenly ill and died after forty-eight hours' illness. Being so near the port the captain, instead of consigning the body to the deep, brought it to land. The vessel was inspected by the port sanitary authorities, and the man having apparently died from natural causes, and there being no more sickness on board, suspicions were not aroused and the vessel was allowed to enter the dock and discharge the cargo in the usual manner. But on the 12th two of the crew sickened. The medical officer of health was called in and diagnosed influenza complicated by pneumonia. Two more of the crew sickened on the 15th. The four died. Post-mortem examination of two of the bodies again failed to show anything inconsistent with the diagnosis of influenza and pneumonia, but owing to the suspicious circumstances the viscera were forwarded to the well-known expert, Dr. Klein, for bacteriologic examination. He has found that the disease was plague. All necessary precautions to prevent the spread of the disease have been taken. Two of the bodies have been cremated and the authorities await permission to cremate the other two. The local government board has dispatched an inspector, who is investigating the matter.

Correspondence.

Angina Epiglottidea Anterior.

JERSEY CITY, N. J., Jan. 23, 1901.

To the Editor:—Having had a case of angina epiglottidea anterior, or acute epiglottitis, I read with interest the account of this malady, in THE JOURNAL of January 18, by Dr. Clement F. Theisen, Albany, N. Y. My one case may, however, throw more light on this peculiar ailment, and it is with this belief I offer it for publication. J. MORGAN JONES, M.D.

REPORT OF CASE.

Miss K. C. M., aged 21 years, was taken suddenly ill, Jan. 6, 1901, with lancinating pains at the base of the tongue, and with difficult deglutition. She grew rapidly worse until January 9, when she could swallow absolutely nothing; pain at the base of the tongue was much more severe, and she had some temperature and was slightly constipated. She was unable to assume a recumbent posture, on account of dyspnea, and was obliged to resort to oral breathing, to improve that condition. At this time they decided to see a physician, and called on a brother practitioner, at his office. From the history of the trouble, he diagnosed the case as tonsillitis, and prescribed accordingly. The patient continued to get worse, and sent for the physician to call at her home, January 10, but as he was unable to attend, I was asked to take charge. On seeing her for the first time, she was sitting in a chair, the body inclined forward, her mouth open, and with an anxious facial expression. On being asked why she sent for a physician I was told that she was subject to tonsillitis, and supposed she was undergoing a similar attack at that time, only much worse, and feared her throat was going to become entirely closed.

The throat was enveloped in strips of salt pork, covered by a flannel bandage. There was considerable submaxillary lymphatic involvement, which one could see as well as feel. However, the patient gave a tubercular history, and admitted the presence of glandular enlargement for several months. Inspection of the oral cavity and pharyngeal vault revealed absolutely no evidence of inflammation anywhere, and for a moment I was nonplussed. But, as the patient repeatedly touched herself about the inferior border of the thyroid cartilage, and insisted that movements of the tongue were very painful, and that she could still swallow nothing, I made a laryngoscopic examination, and found the epiglottis very much inflamed, of a uniform scarlet hue, also considerably enlarged. There was slight extension of the inflammation to the vocal cords, and also to the aryteno-epiglottic folds. Rectal temperature was 101.5., the tongue slightly coated, gray but moist. The pulse was 88, regular, and tension normal. Parenthetically, I was informed she had been treated for a valvular cardiac lesion, for a year; but it was not discoverable to me.

Treatment.—I prescribed calomel, gr. 1/10, every half hour for ten doses; it had to be dissolved in one-half dram of water, and then kept in the mouth, as the patient could not swallow, even to that extent. In addition, inhalations of turpentine vapor were ordered, to be inhaled through a cone every hour; also a cold spray of hydrogen dioxid and water, equal parts, to be used every hour. The strips of salt pork were discontinued, and hot water fomentations used, to be changed as soon as they would feel cool, during the daytime. Upon retiring, for I encouraged the reclining posture, a cold water pack was applied and left *in situ* till morning. Jan. 11, 1901, the bowels moved freely twice, showing characteristics of the calomel purgation. Hot water fomentations were discontinued, but otherwise treatment continued unchanged. By night, there was a diminution in the size of the lymphatics, the patient felt slight improvement, and was able to swallow about one-half an ounce of milk. Saturday, January 12, there was very little soreness remaining, and she could swallow liquids with very little discomfort. On the 13th her condition was entirely relieved, and, contrary to advice, she ate a hearty dinner, experiencing no deleterious effects, save that la grippe developed next day, from which recovery was prompt and uneventful.

Association News.

Committee on National Legislation.

The Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION hereby calls a meeting in annual conference at Washington, D. C., on Feb. 20 and 21, 1901, at 11 a.m., at the Arlington Hotel, to consider various medical matters now pending in the national Congress of the United States, and any other medical matters of local interest to societies.

H. L. E. JOHNSON, M.D.
Chairman Committee on National Legislation.

Chairmen of Committees of the American Medical Association.

Dr. J. W. Chamberlin, Lowry Arcade, St. Paul, Minn., badges.

Dr. J. F. Fulton, Lowry Arcade, St. Paul, Minn., on arrangements.

Dr. C. Williams, 145 West 5th street, St. Paul, Minn., banquets.

Dr. C. A. Wheaton, Lowry Arcade, St. Paul, Minn., on finance.

Dr. H. L. Taylor, Lowry Arcade, St. Paul, Minn., general exhibits.

Dr. H. H. Kimball, Dayton Building, St. Paul, Minn., meeting places.

Dr. Burnside Foster, Lowry Arcade, St. Paul, Minn., entertainments.

Dr. Edw. Boeckmann, Lowry Arcade, St. Paul, Minn., pathological exhibits.

Dr. J. A. Quinn, corner 4th street and Wabasha, St. Paul, Minn., transportation.

Dr. Harry O'Brien, Endicott Arcade, St. Paul, Minn., programs and publications.

Dr. J. T. Rogers, Lowry Arcade, St. Paul, Minn., halls and meeting places.

Dr. E. J. Abbott, Endicott Arcade, St. Paul, Minn., bureau of information.

Dr. J. B. Brimhall, Seven Corners, St. Paul, Minn., registration.

Dr. Arthur Sweeney, Lowry Arcade, St. Paul, Minn., hotel arrangements.

New Members.

The following is a list of new members of the A. M. A. for January, 1901.

ALABAMA.

Brothers, Philip H., Zula.
Baker, D. H., Birmingham.
Due, Malvern N., Birmingham.
Pettus, Claude, Monrovia.
Hudson, W. H., LaFayette.
Sledge, Wm. H., Mobile.

CALIFORNIA.

Evans, Geo. H., San Francisco.
Wilbur, Ray L., San Francisco.
Tooley, L. P., Willows.
Ketcham, L. Y., San Diego.
Haynes, J. R., Los Angeles.

GEORGIA.

Lovvorn, R. M., Bowdon.
Roberson, G. W., Macon.
Barron, Robt. B., Macon.

ILLINOIS.

Stiver, R. J., Lena.
Knoppenberger, H., Macomb.
Schowengerdt, W. E., Champaign.
Dixon, Wm. A., Decatur.
Wells, Wm. H., Monmouth.
Merriman, H. P., Chicago.
Novak, F. J., Chicago.
Martin, Albert R., Chicago.
Wagner, Henry E., Chicago.
Boehler, L. L., Chicago.
Dombrowski, Paul, Peoria.
Corwin, A. M., Chicago.
McKinney, John G., Quincy.
Yolton, John L., Bloomington.
Fringer, G. W., Pana.
Fullenwider, J. A., Champaign.
Heisz, Emily J., Chicago.
NAME OMITTED FROM PUBLISHED LIST OF MEMBERS IN SEPTEMBER.
Gillespie, T. W., Losant, Ill.

INDIANA.

Howat, W. F., Hammond.
Moore, E. P., South Bend.
Oyler, Wm. A., Argos.
Holland, P. C., Bloomington.

INDIAN TERRITORY.

Kennedy, Samuel G., Tulsa.

IOWA.

Rector, Albert E., Spirit Lake.
Allen, Manning L., Tama.
Wedel, J. R., Vincennes.
Boice, J. C., Washington.
Prentice, G. L., Searsboro.

KENTUCKY.

Smith, Joseph E., Bardstown.
Foster, Wm. E., Owenton.
Fugitt, Walter W., Burtonville.

LOUISIANA.

Girard, Percy M., Lafayette.
McGuire, Marion H., New Orleans.
Gaydon, Agrippa, Norwood.
Alison, Jacob S., Swartz.
Stephens, Jos. S., Natchitoches.
Blum, Henry N., New Orleans.

MASSACHUSETTS.

Weston, George D., Springfield.
Hill, Edgar D., Plymouth.
Dickson, Richard E., Granby.
Hood, Mary G., Newton Center.
McDonald, Wm. J., Boston.
Thorndike, Augustus, Boston.
Shisler, Wm. H., Boston.
Clement, Geo. C., Haverhill.

MARYLAND.

Hocking, G. H., Baltimore.
Grieves, C. J., Baltimore.
Johnson, Thos. B., Frederick.
Orrison, J. E., Baltimore.

MICHIGAN.

Baldwin, Fred'k A., Ann Arbor.
Greene, M. Clayton, Lowell.
Brehm, Theo., Negaunee.
Campbell, J. F., Lansing.
Cornell, D. B., Saginaw.
Otis, F. J., Battle Creek.
Schmalzriedt, Theo., Woodmere.

MINNESOTA.

Holte, H., Crookston.
Shimonek, A., St. Paul.
Archibald, F. N., Atwater.
Maloy, G. E., St. Cloud.
Lumley, W. A., Renville.
Shrader, E. E., Watertown.
McCarthy, Wm. J., Madelia.
Stuart, J. H., Minneapolis.
Lonsdale, J., Royalton.
Law, A. A., Minneapolis.
Curran, G. R., Worthington.
De La Barre, Wm., Minneapolis.
Grivelli, Carl T., Young America.
Wilson, Warren, Northfield.

MISSISSIPPI.

Weissinger, A. J., Days.
Dickens, Wm. B., Woodstock.
Sutherland, H. L., Rosedale.
Johnson, John H., Brook Haven.
Wilburn, Thos. L., Kilmichael.
Dilworth, J. A., Aberdeen.

MISSOURI.

Rice, John J., Kearney.
Weyman, Moritz F., St. Joseph.

NEW HAMPSHIRE.

Morrill, S. C., Concord.
Russell, Julia Wallace, Concord.
Wallace, E. A., Manchester.

NEW YORK.

Appleton, Mary, New York City.
Levison, H. A., New York City.
Forbes, H. H., New York City.
Burrows, C. C., New York City.
Kemp, R. E., New York City.
Irwin, S. N., New York City.
Dudley, R. B., Clinton.
Gravel[illegible] J., Troy.
Sleeker, Milton A., New York City.
Dodin, Henry A., New York City.

NORTH DAKOTA.

Savage, Jas. L., Davenport.
Burrows, Fred'k N., Bathgate.
Moeller, Jess Henry, Devil's Lake.

NEBRASKA.

Neeley, John M., Elmwood.
Little, Wm. Jas., Madison.

NEW JERSEY.

Porter, Katherine, Orange.

OHIO.

Schoepfle, H. C., Sandusky.
Ray, Joseph H., Wilmington.
Goodsell, Evander J., Norwalk.
Bernstein, S. L., Cleveland.
Courtright, T. E., Columbus.
Ray, Jas. B., Scioto.
Briggs, Chas. E., Cleveland.
Baker, J. P., Findlay.
Isham, A. B., Cincinnati.

PENNSYLVANIA.

Wiggins, S. L., McKeesport.
Miller, W. W., Jeannette.
Quigley, John M., Shawmut.
East, Albert F., Reading.
Butz, R. E., York.
Crumrine, Clyde W., Charlerol.
Minier, Chas. H., Wilkesbarre.
Woods, Adella B., Erie.
Kirk, Thos. T., Pittsburg.
Messer, Agnes B. Robinson-, Philadelphia.
Lear, John, Allentown.
Overmiller, N. A., Yoe.
Mercur, Wm. H., Pittsburg.
Harbaugh, C. H., Philadelphia.
Ritter, Ella N., Williamsport.
Frantz, Jos., Waynesboro.
Hassler, S. F., Harrisburg.
Hayes, R. G. H., Bellefonte.

TENNESSEE.

McCoy, Ambrose, Jackson.
Harris, J. A., Dandridge.

TEXAS.

Mitchel, L. C., San Antonio.

UTAH.

Parkinson, Wm. B., Logan City.

VIRGINIA.

Brown, Israel, Norfolk.
Mosby, Ernest, Mt. Meridian.
Vanderslice, G. K., Phoebus

NORTH CAROLINA.

Lyle, S. H., Franklin.

NEW MEXICO.

Haynes, John R., Albuquerque.

WASHINGTON.

Hamilton, Allan, Tacoma.

WISCONSIN.

Cantwell, W. H., Shawano.
Voorus, C. W., Beaver Dam
Schulz, F. M., Milwaukee.
Farrell, Albert M., Two Rivers
Tibbitts, C. J., Prospect.
Farr, Lyman R., Beloit.
Schauer, Julius L., Milwaukee.
Holbrook, Arthur T., Milwaukee.
Bromley, Fred'k W., Palmyra.
Mack, J. A., Madison.
Hartford, W. P., Cassville.
MacLachlan, Wm. G., McFarland.
Smith, Bryant, Milwaukee.

Book Notices.

RINGWORM IN THE LIGHT OF RECENT RESEARCH. By Malcolm Morris, Surgeon to the Skin Department, St. Mary's Hospital. Price, $2.00. London, Paris and Melbourne: Cassell & Co. 1898.

This appears in the form of an artistic cloth-bound monograph of 137 pages, illustrated by a colored frontispiece and twenty-two photomicrographs of stained specimens and cultures of the ringworm fungi. The reproductions are of a good order. The subject is introduced by a brief historical treatment and a rehearsal of the parasitic theory of the disease. Gruby is credited with the discovery of the Microsporon audouini in 1843, while in 1844 Malmsten discovered the trichophyton fungus. It is explained that through a confusion of terms the discovery fell into disrepute and was entirely forgotten until Sabouraud in 1892 established the parasitic nature of the disease and the plurality of its fungi. The doctrine of Sabouraud is clearly set forth, and his conclusions in the main adopted. the criticisms being offered that the French investigator divides the fungi into too many varieties, and is too positive concerning the clinical differences of the various types of infection. The results of other modern investigators are summarized, and the author offers the results of his own examination of 126 consecutive cases. The hairs of all cases were stained by a modified Gram method—original with the author—and many cultures were made on Sabouraud's maltose agar. The cultural results in the main corroborate those of the French writer. It is suggested, however, that the fine cultural differences of Sabouraud are not essential.

Treatment and prophylaxis receive detailed and satisfactory attention.

No criticism is to be offered on the clearness and easy style of the contributors.

MANUAL OF PATHOLOGY, INCLUDING BACTERIOLOGY, THE TECHNIC OF POST-MORTEMS, AND METHODS OF PATHOLOGIC RESEARCH. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. Third Edition, revised and enlarged. 350 Illustrations and 7 Colored Plates. Octavo. Pp. 846. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1900.

Including, as this book does, bacteriology, the technique of post-mortem examinations, methods of research in pathology, general and special pathology, it is quite self-evident that the 846 pages of which it consists can only give the most important facts of the subjects mentioned. We believe that the work is quite reliable as far as it goes. In some places the classification is somewhat peculiar, thus there is a separate chapter devoted to mucous membranes in the section on special pathology, and then we find that the different mucous membranes are considered again in connection with the organs of respiration and alimentary canal, etc. In the section on technic, there is a large number of illustrations which show the names of the manufacturers in large letters, so that this part of the book looks quite like an instrument catalogue. The type is large and clear; the paper is of a high grade, and many of the illustrations are quite satisfactory.

TERAPIA DELLE MALATTIE DELL' INFANZIA ad uso di medici e studenti del Dott. Prof. Cesare Cattaneo, Libero docente di Clinica Medica Pediatrica alla R. Universita di Parma. Cloth. Pp. 507. Milan, Italy: Urico Hoepli. 1901.

This little volume on the diseases of children differs somewhat in its plan from the average of similar publications. It

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is a work of treatment almost exclusively, and in alphabetic arrangement. The author accepts as probable, and takes for granted, that the reader is well posted as to the symptoms of the diseases, so, after a few remarks on causation and prognosis, passes at once to the therapeutics of the disorder and its complications. The work contains a large number of prescriptions given according to the Italian Pharmacopeia, but readily transposable and intelligible for the most part to the American practitioner even though the text accompanying them is not. The volume seems to be, in its compass, and with its limitations above noted, a very satisfactory handling of its particular subject.

DISEASES OF THE HEART, BLOOD-VESSELS, LYMPHATICS, BLOOD, AND DUCTLESS GLANDS. A Wall Chart. Published by M. J. Breitenbach Co., New York.

This chart gives the chief points of each disorder under the heads of causation, general symptoms, physical signs by inspection, palpation, auscultation, depression, blood change, pulse characteristics, the complications and sequelæ also noted. So far as we are able to see, the chart is a reliable statement of the main diagnostic points of these diseases, and will be a very convenient office adjunct to a physician for occasional or daily reference.

Married.

ARTHUR E. GILLETTE, M.D., to Miss Mayme Jones, both of Cincinnati, Ohio, January 24.

HORACE HALL, M.D., Tepasals, Mexico, to Miss Camilla Scott, of Dallas, Texas, January 24.

G. W. LAUNSPACH, M.D., Fulton, S. Dak., to Miss Mary Anderson, of Dubuque, Iowa, January 16.

FRANK GRAY KETCHUM, M.D., New York City, to Miss Mary Myers, of Lonaconing, Md., January 24.

F. CULLEN WELTY, M.D., Cleveland, Ohio, to Miss Eleanor Wood, of San Francisco, Cal., February 7.

WILLIS ALONZO BIRD, M.D., Theney, Texas, to Miss Sara Priscilla Burdeshaw, of Kinsey, Tenn., January 16.

JAMES HARDY PITTMAN, M.D., Jacksonville, Fla., to Miss Myrtice Barnett Cason, of Marietta, Ga., January 24.

WILLIAM FULFORD SAPPINGTON, M.D., of the house staff of the Maryland University Hospital, to Miss Florence Valiant Robertson, of Baltimore, at Elmira, N. Y., January 24.

Deaths and Obituaries.

Martin Hagan, M.D., Starling Medical College, Columbus, Ohio, 1859, Los Angeles, Cal., died at his home in that place, January 23, from apoplexy, aged 68. After service in the Civil War he practiced in St. Paul, Minn., until 1881, when he was placed in charge of the asylum for the insane of the Hawaiian Islands. In 1884 he moved to Los Angeles, and three years later was made health officer. He did efficient work in the smallpox epidemic of 1887-88.

Henry J. Herrick, M.D., Rush Medical College, Chicago, 1861, died from uremia, after an illness of about one year, at his home in Cleveland, Ohio, January 28, aged 67. He was a member of THE AMERICAN MEDICAL ASSOCIATION, for many years professor of state medicine and hygiene in the medical department of Western Reserve University, and surgeon-general of Ohio, during Governor Foraker's administration.

William H. Nevison, M.D., Western Reserve University, Cleveland, Ohio, 1887, and a member of its faculty, died at Lakeside Hospital, Cleveland, Ohio, January 27, from pulmonary tuberculosis. He was 37 years old. At a meeting of the faculty of the medical department of the university, January 30, resolutions laudatory of the deceased and expressing regrets and sympathy at his early death, were adopted.

Homer Octavius Jewett, M.D., New York University, 1843, died at his home in Cortland, N. Y., from pneumonia. He was one of the founders of the New York State Medical Association, before which he read many papers. He also early identified himself with THE AMERICAN MEDICAL ASSOCIATION, and was in active practice until about a month before his death.

Charles W. Stevens, M.D., Harvard Medical School, 1870, died at his residence in Charlestown, Mass., January 25, from diphtheria, at the age of 65. He served as city physician and as surgeon on one of the steamship lines between Boston and Liverpool, and was a member of the Massachusetts Academy of Medicine.

Armstrong P. Houston, M.D., Jefferson Medical College, Philadelphia, 1854, of Clarksville, Ga., died in Atlanta, Ga., January 27, while on his way to Florida for his health, aged 69. He practiced at Clarksville for forty years and served during the Civil War as a surgeon on the Confederate side.

Henry L. Stickel, M.D., Jefferson Medical College, Philadelphia, 1873, died in Harrisburg, Pa., January 24, from tuberculosis, aged 48. He served as surgeon in the army and was consulting surgeon of the Harrisburg Hospital.

Isaac Ryall, M.D., Trinity Medical College, Toronto, 1855, medical health officer of Hamilton, Ont., died on January 20, from hemorrhage of the stomach. For twenty-six years he was Hamilton's health officer. He was also surgeon to the Thirteenth Regiment at the time of the fenian raid.

S. D. M. Byrd, M.D., Oglethorpe Medical College, Savannah, Ga., 1856, died suddenly at his home in Scranton, S. C., January 21. He served on the Confederate side in the Civil War, rising to the rank of lieutenant-colonel, and was also state representative and senator for several terms.

Frederick G. Bloom, M.D., died at his home in Martinsburg, Pa., January 23, aged 79. He was one of the oldest graduates of the University of Pennsylvania, and had practiced in Martinsburg for more than half a century.

Albert G. Priest, M.D., Jefferson Medical College, Philadelphia, 1852, died suddenly from apoplexy, January 24, at his home in Shelbyville, Mo., where he had practiced for nearly fifty years. His age was 72 years.

David V. Waite, M.D., Geneva Medical College, Geneva, N. Y., 1851, who had practiced medicine for more than forty years in and around Rockton, Ill., died at his home in that place, January 26, aged 76.

Dennis H. Reardon, M.D., Western Reserve, Cleveland, Ohio, 1883, of Elmira, N. Y., was found dead, January 27. An overdose of chloroform, which he was in the habit of inhaling, was the cause.

Wesley W. Barkwell, M.D., Detroit College of Medicine, 1889, who practiced in Chicago until tuberculosis forced him to go to San Jose, Cal., in 1898, died at Tucson, Ari., January 28, aged 38.

Oliver Newton Murdock, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1876, died January 29, at his home in Minneapolis, Minn., after a short illness from la grippe, aged 47.

Nathan H. Raynor, M.D., University of Pennsylvania, Philadelphia, 1879, died at his residence in Philadelphia, January 25, after an illness of two months, from Bright's disease, aged 45.

William W. Parker, Jr., M.D., University College of Medicine, Richmond, Va., 1899, died at the Virginia Hospital, Richmond, after an illness of four weeks, from typhoid fever, January 24.

Edson K. Smith, M.D., Dartmouth Medical College, Hanover, N. H., 1891, died at his home in Poultney, Vt., after an illness of two weeks, from typhoid fever, January 24, aged 46.

Frederick C. McCarthy, M.D., Harvard Medical School, 1899, of Malden, Mass., died from typhoid fever at the Massachusetts General Hospital, Boston, January 21, aged 28.

John D. Kremien, M.D., formerly a practicing physician of Baltimore, and a member of the Medical and Chirurgical Faculty of Maryland, died January 23, from typhoid fever.

Erskine E. Hamilton, M.D., College of Physicians and Surgeons, New York City, 1892, recently died from Bright's disease, at his home in Springfield, Mass., aged 34.

William Langdon Simpson, M.D., Medical School of Maine, Brunswick, 1879, died from the effects of a bullet-wound in the head, in New York City, January 26.

William Foster Harvey, M.D., Medical College of Ohio, for many years a practitioner in Hendricks County, Ind., died at his home in Indianapolis, January 27, aged 75.

John Thompson, M.D., Bellevue Hospital Medical College, 1871, died from pneumonia, after an illness of four days, at his home in Amherst, Va., January 23, aged 61.

John H. Miller, M.D., Castleton Medical College, Castleton, Vt., 1859, formerly a resident of New Bremen, N. Y., died at his home in Burbank, Cal., January 24, aged 66.

J. Ranlet Smith, M.D., Vermont Medical College, Woodstock, 1845, died at his residence in Gloucester, Mass., January 25, after an illness of several years, aged 79.

Walter W. Worley, M.D., St. Louis Medical College and Bellevue Hospital Medical College, died after a long illness, January 22, at his home in Ursa, Ill., aged 37.

Henry W. Bryan, M.D., University of Pennsylvania, 1895, died at his home in Wilmington, Del., from pneumonia after an illness of four days, January 27, aged 31.

William D. Craig, M.D., Rush Medical College, Chicago, 1850, who had practiced for forty years in Aledo, Ill., died at his home in that city, January 23, aged 71.

John H. O'Brien, M.D., New York University, 1887, died at his home in Pittsburg, Pa., January 28, after an illness of six weeks, from Bright's disease, aged 41.

Charles C. Allen, M.D., Missouri Medical College, St. Louis, 1850; Bellevue Hospital Medical College, 1872, died at his home in Chillicothe, Ill., January 23, aged 75.

Almon V. Thompson, M.D., Medical School of Maine, Brunswick, 1874, died from Bright's disease, January 25, at his home in Beaver Falls, Pa., aged 56.

J. Stuart Leech, M.D., Jefferson Medical College, Philadelphia, 1841, the oldest physician in Chester County, died January 23, at Downington, Pa., aged 87.

John F. McGrew, M.D., College of Physicians and Surgeons, Baltimore, Md., 1888, died from consumption at his home in Finleyville, Pa., January 27, aged 40.

Frank Wertz, M.D., University of Pennsylvania, 1866, died at his home in Longswamp Township, Berks County, Pa., January 18, from apoplexy, aged 64.

Grafton Marsh Bosley, M.D., University of Maryland, 1847, of Towson, Md., died at the Church Home and Infirmary, Baltimore, January 26, aged 75.

Frederick S. Nelson, M.D., University of the South, Sewanee, Tenn., 1900, died January 27 from tuberculosis, at Newmarket, N. J., aged 37.

John A. Keith, M.D., Medical College of the State of South Carolina, Charleston, S. C., 1881, died at his home in Lucknow, S. C., January 23.

Louis R. Warren, M.D., College of Physicians and Surgeons, New York City, 1880, died recently at his home, Orange Ridge, Braidentown, Fla.

Theodore D. C. Miller, M.D., Bellevue Hospital Medical College, New York, 1866, died at his home, New York City, January 29, aged 59.

Arthur W. Langley, M.D., Medical School of Maine, Brunswick, 1891, died suddenly at his home in Kennebunkport, Me., January 23, aged 35.

Edward James Marshall, M.D., University of Pennsylvania, Philadelphia, 1867, died at his home in Northbrook, January 28, aged 60.

Henry W. Holman, M.D., Jefferson Medical College, Philadelphia, 1855, at his home in Inez, Va., from pneumonia, January 23, aged 71.

James Seth, M.D., University of Maryland, 1865, died January 26, at his home near McDaniel, Md., where he had practiced for 35 years.

Andrew J. Norris, M.D., College of Physicians and Surgeons, Iowa, 1870, died at his home in Ten Mile, Mo., January 28, aged 56.

Guthrie Rider Winder, M.D., Long Island College Hospital, Brooklyn, 1898, of Brooklyn, N. Y., died January 25, aged 26.

Joseph E. M. Chamberlaine, M.D., University of Maryland, 1849, died at his residence in Easton, Md., January 30, aged 74.

Luther P. Hess, M.D., Medical College of Indiana, Indianapolis, 1881, died at his home in Oakland, Cal., January 30, aged 57.

Shadrach L. Ferree, M.D., Medical College of Indiana, Indianapolis, 1870, died at his home in Indianapolis, January 30, aged 71.

Paul Jencke, M.D., Missouri Medical College, 1878, died from pneumonia, January 29, at his home in Linn, Mo.

Stephen Chandler Griggs, M.D., New York University, 1849, of Brooklyn, New York, died February 1, aged 81.

Seneca M. Bain, M.D., Tulane University, New Orleans, La., 1861, died at his home in Gatesville, Texas, January 22.

Miscellany.

Neurasthenia Not a Prerogative of the Cultured Classes.—Petren of Lund writes to the *Deu. Ztft. f. Nervenheilkunde* that it is an error to assume that neurasthenia is less frequent among the lower classes, the peasants, of Europe than among the cultured. He doubts whether modern civilization is responsible for the increase in nervous degeneration.

Traumatic Etiology of Malignant Tumors.—A recent thesis reviews the material in the Goettingen clinic for nineteen years—a total of 1767 cases of malignant tumors—and notes that in 45 there was a possibility of traumatic origin. This possibility was very slight in 21, which leaves only 24 in which the trauma had actual etiologic significance. This is a very small proportion compared with those reported by others: Wolff, 68 in 462 cases, or 14.7 per cent.; Liebe 28 in 271, or 13.3 per cent.; Rapok, 109 in 553, or 19.7 per cent.; Lengnick, 24 in 579, or 4.1 per cent., while Kempf, the author of the thesis in question, reviewed in the *Cbl. f. Chir.*, found only 45 in 1767, or 2.5 per cent.

Operating by Light from Automobile.—A correspondent of the *Boston Medical and Surgical Journal* (January 26) reports a new use for the electric automobile. A laparotomy having been necessitated in the evening, at a private house, where only open burning lights were available, and etherization was therefore dangerous, he attached a couple of incandescent lamps to his motor battery by insulated wire, thus performing the operation with ease and safety. He offers this experience as a suggestion of a possible enhanced value of the electric automobile to physicians, not only as a magazine of light when needed, but also for cauteries, therapeutic applications of currents, etc., and a similar use of the automobile has been made by others (Caldwell: THE JOURNAL, February 2, p. 344.)

Differentiation of Cancer and Liver Abscess by the Blood.—Boinet states that when the leucocytes—especially the polynucleated—are six to ten times more numerous than normally, it is a strong supporting testimony of the presence of an abscess in the liver. The *Sem. Méd.*, of January 2 cites cases in which the assumption of an abscess of this kind from the condition of the blood was confirmed by operation. Hartmann also calls attention to the blood as a means of differentiating carcinoma of the stomach. In one case in which the clinical evidence of carcinoma was unquestioned the contradictory testimony of the blood was disregarded, and the stomach found intact. The health of the patient has been good since. In another case an ulcer of the stomach was assumed, but the blood and the laparotomy showed the lesion to be a carcinoma.

Therapeutics.

Treatment of Hereditary Syphilis of Nose and Throat.

In addition to the constitutional treatment, Casselberry advises attention to the bowels, diet and general health. As a local application to the ulcers he recommends the following:

R. Iodini		
Acidi tannici		
Potassii iodidi, āā	ʒi	4
Glycerini	ʒss	16
Aquæ, q. s. ad	ʒi	32

M. Sig.: Apply to the ulcers directly with a cotton swab.

Pyle recommends the following in local treatment of hereditary syphilis:

R. Acidi borici	gr. v	33
Pot. permanganatis	gr. i	06
Aquæ destil.	ʒi	32

M. Sig.: Apply locally.

Or,

R. Acidi carbol.	gr. i	06
Sodii bicarb.	gr. vi	36
Acidi borici	gr. v	30
Aquæ	ʒi	32

M. Sig.: Locally to nasal passages.

The child should be placed in the nurse's lap and the nasopharynx plugged by means of a temporary sponge, the head slightly raised and the nose washed out with a fine syringe, spray or douche, too much force not being used.

OZENA DEPENDENT ON HEREDITARY SYPHILIS.

R. Arsenici iodidi	gr. iii	18
Hydrarg. biniodidi	gr. v	30
Potassii iodidi	ʒi	4
Aquæ destil.	ʒiv	128

M. Sig.: Four drops three times a day, to be increased according to age.

Fetid Rhinitis.

G. M. Leffert, in *Med. News*, recommends the daily use of the anterior and posterior nasal syringe, the removal of hard crusts with the forceps and washing thoroughly with one of the following alkaline and antiseptic solutions until all offensive secretions have been removed:

R. Sodii boratis	ʒi	4
Glycer. acidi carbol.	ʒiss	6
Aquæ destil.	Oi	500

M. Sig.: To be used as an atomizer.

Either of the following prescriptions may be used in the same manner:

R. Acidi salicylici	gr. x	66
Sodii bicarb.	ʒi	4
Aquæ destil.	Oi	500

Or,

R. Sodii boratis	ʒi	4
Sol. potas. permangan.—1 per cent	ʒiss	6
Aquæ destil.	Oi	500

To overcome the dryness of the mucous membrane follow the cleansing with a spray of liquid albolene.

Euquinin in Acute Nasal Catarrh.

Merck's Archives recommends euquinin in the following combination in acute rhinitis:

AS A PILL.

R. Euquinin	gr. xxx	2
Liq. potassii arsenitis	m. x	66
Solutionis atropinæ—1 per cent	m. iv	25
Ext. gentianæ	gr. xx	1 33
Pulveris acaciæ, q. s.		

M. Ft. pilulæ No. xii. Sig.: Take one pill every three hours.

AS A TABLET.

R. Euquinin	gr. x	66
Atropinæ sulphatis	gr. 1/30	002
Morphinæ sulphatis	gr. ss	03
Camphoræ	gr. x	66

M. Ft. tabellæ No. xx. Sig.: One every half hour for six doses, or until throat feels dry, then one every two or three hours.

Euquinin is slightly bitter and can be given in doses of one and a half times that of quinin sulphate, administered in powder, capsule, soup, milk or cocoa.

Local Treatment of Diphtheria.

Sheffield recommends the following combinations in treatment of diphtheria:

R. Papainæ—glycerin extract	ʒiv	16
Acidi carbol.		
Pulv. camphoræ, āā	gr. viii	50
Alcoholis, q. s. ad sol.		
Glycerini, q. s. ad	ʒii	64

M. Sig.: This is to be applied to the throat by means of a cotton swab every two hours until abatement of the symptoms, then less frequently.

Or,

R. Hydrogeni peroxidi	ʒiv	16
Sodii boratis	ʒii	8
Glycerini	ʒii	64
Aquæ rosæ, q. s. ad	ʒiv	128

M. Sig.: One tablespoonful to be instilled into the nose every two hours while the diphtheric membrane is present.

Treatment of Follicular Pharyngitis.

Kyle states that, in the early stages of clergyman's sore throat, where permanent structure change has not taken place, he is in the habit of administering drugs that are eliminated by the mucous membrane. Under such circumstances he recommends the following:

R. Phosphori	gr. 1/6	01
Iodini	gr. ii	12
Bromini	gr. ii	12
Vini xerici	ʒii	64

M. Sig.: One teaspoonful three times a day.

A local application of chromic acid in twenty per cent. solution to each follicle, touching only a few at one time, may be made being careful to dry the part afterward with a piece of dry absorbent cotton. He recommends as a local application to the entire surface the following:

R. Olei pini sylvestris		
Olei eucalypti, āā	gtt. v	30
Menthol	gr. iv	25
Tinct. benzoini	ʒi	32

M. Sig.: Apply locally every other day to stimulate the mucous membrane and promote resolution.

Treatment of Tuberculosis.

Flich, in *Med. Record*, states that in his opinion drugs containing iodin are the best, and that they are best given by inunction. He further states that the essential oils, and especially peppermint and thyme, unfit the tissues as soil for the propagation of the bacilli. Mendel recommends the following combination in treatment of tuberculosis:

R. Olei thymi		
Olei eucalypti		
Olei cinnamomi, āā	gtt. lxxx	52
Iodoformi	gr. xv	1
Olei olivæ steril	ʒiiiss	112

M. Sig.: Introduce 45 minims into the trachea by means of a long-curved syringe.

Nocturnal Incontinence of Urine.

Stumpf, in *Jour. of Med. and Science*, recommends that the child lie in such a position that the head is lower than the hips, so that the urine will not flow into the urethra, and thus irritate and excite the urethral sphincter. He states that after such postural treatment for three weeks the usual position in bed may be resumed.

Guaiacol in Chronic Cystitis.

Gabriel Colin, in *Jour. de Méd. de Paris*, advises the following formula in chronic cystitis of tuberculous origin:

R. Guaiacol	℥i	4
Ol. amygdalæ dulcis—sterilized	℥iiss	80

M. Sig.: Inject from a quarter to half a teaspoonful into the bladder once or twice a day.

Chronic Prostatitis.

Freudenberg, in the same journal, recommends the following suppository:

R. Ichthyol	gr. v to xii	33–72
Olei theobromatis	gr. l	3 33

M. Ft. suppository. Sig.: One such suppository to be inserted twice a day, night and morning, after evacuation of the bowels. If a movement occurs in the middle of the day, a third suppository may be used after it.

Treatment of Varicose Veins.

Woodward, in the *Clinique*, states that obliteration of the vein should first be made and if eczema exists over the area of induration and edema he advises the parts to be washed in a solution of bichlorid and carbolic acid morning and evening, and the following ointment applied:

R. Olei picis	℥ss	2
Zinci oxidi	℥ii	64

M. Sig.: Apply locally night and morning.

If an exudate and blebs appear the following is preferable:

R. Acidi tannici	gr. v	30
Bismuthi subnitratis	℥ss	2
Lanolini	℥i	32

M. Sig.: Apply locally.

Where radical measures are refused by the patient, or in old subjects, the recumbent posture and elastic bandages will improve the condition; in ulcerations dusting powders of boric acid, iodoform, bismuth subnitrate. A paste made of mild chlorid of mercury and sodium chlorid stimulates granulation tissue.

Infantile Colic.

Dr. P. F. Barbour, in *Pediatrics*, states that in colic of infants the use of warm enemata will generally remove the gas. The enema may contain a few drops of turpentine or half a teaspoonful of glycerin. Hot applications should be applied to the abdomen and the feet and hands kept warm. He also recommends small amounts of hot whisky and water with a drop of the essence of peppermint and a little sodium bicarbonate by the mouth. One of the following combinations is also recommended:

R. Spts. ammon. arom.	m. vi	36
Sodii bicarb.	gr. xii	72
Syr. rhei aromatici	℥i	4
Aquæ cari	℥iss	48

M. Sig. One teaspoonful as required.

Or,

R. Tinct. asafetidæ	m. xv	1
Olei cajuputi	m. ii	12
Mag. carbonatis	℥ss	2
Syr. acaciæ	℥ss	16
Aquæ anisi	℥iss	48

M. Sig.: One teaspoonful as required.

Enterocolitis (Mucomembranous) in Adults.

R. Magnesiæ (calcined)		
Sulphuris loti		
Potassii bitartratis, ää	℥v	20

M. Sig.: One teaspoonful before each meal.

Enteritis of Nursing Infants.

R. Tannigeni	gr. x	66
Acidi lactici	gr. xxx	2
Syrupi simplicis	℥i	32
Aquæ destil., q. s. ad	℥iii	96

M. Sig.: One teaspoonful before each nursing.

—*Clinica Moderna.*

Tannigen should be given in much larger doses in order to derive the proper benefit from it. It can be given in doses ranging from three to five grains to infants.

Treatment of Atonic Ulcers by Hot Irrigations.

Kindler, in the *Centralblatt f. Chir.*, has treated with good results chronic ulcers by irrigations of two liters of water, as hot as could be borne, flowing with a drop of six feet. These irrigations were repeated two or three times a day and followed by dry rubbing with powdered iodoform or bismuth subgallate. He noted that chronic leg ulcers, perforating ulcers of tabes, the slow and progressive erosions of tertiary syphilis and phagadenic chancroids were thus cured in a very short time. —*Ther. Gazette.*

Medicolegal.

Not Liable for Unhealthful Condition of Lockup.—The Supreme Court of Iowa holds, in the case of Lahner vs. the Incorporated Town of Williams, that a municipal corporation is not liable in damages for injury to a person's health caused by his incarceration over night, without food or water or suitable protection against the cold, in a filthy and unhealthful lockup, under an arrest without legal cause or excuse, the acts complained of having been done by officers of the corporation in an attempt to enforce its police regulations.

Making Mismanagement of Physician a Defense to Crime.—In the homicide case of the State of Iowa vs. Wood it appeared that certain injuries had been inflicted on the 11th of the month. Up to the 6th of the following month the victim of the injuries had improved in health. Then his physician temporarily left the state. Another was called on the 11th, and soon thereafter empyema set in, resulting in death on the 24th. The defendant insisted that the evidence tended to show that, but for mismanagement on the part of this second physician, or those caring for the injured man, he might have recovered; and that the jury should have been instructed, if they so found, that the defendant could not be convicted of manslaughter. But not so thinks the Supreme Court of Iowa. In affirming a judgment of conviction, it holds that to warrant escape for the killing, the subsequent mismanagement or neglect must have been the sole cause of death, and that the jury was rightly instructed that, if the injuries inflicted by the defendant directly contributed to produce empyema, causing death, he was guilty of taking the life of the deceased, while if these did not so contribute, he could not be convicted of murder or manslaughter. No principle, it declares, is better settled than that he who, by his wrongful act, accelerates or hastens death, or contributes to its cause, is guilty of homicide; and whether this be murder of manslaughter necessarily depends on the intent or motive by which the person making it was actuated.

Charitable Hospital Owned by Individual is Taxable.—The state constitution of North Dakota provides that "the legislative assembly shall, by a general law, exempt from taxation property used exclusively for school, religious, cemetery, or charitable purposes." The legislature, in describing the property exempt from taxation, enumerated: "All buildings belonging to institutions of purely public charity, including public hospitals, together with the land actually occupied by such institutions, not leased or otherwise used with a view to profit," etc. Now, the constitutional provision, the Supreme Court of North Dakota holds, Engstad vs. Grand Forks County, does not of its own force operate to exempt any property from taxation, is not self-executing; and, under the statute, real estate which is used exclusively for purposes of purely public charity, but which is not owned by an "institution," is not exempt from taxation. Hence, it holds that there is no law in the state which exempts from taxation a hospital, and the land upon which it is erected, when the same is conducted solely by one individual, who owns the same, and who operates it for public charity exclusively. In fact, it declares that real estate which belongs to but one individual, a natural person, can not, under any circumstances, be entitled to exemption from taxation under the statute. Nor does it consider the statute repugnant to the constitution because it is narrower in its terms, or because it limits the exemption of real estate used for charitable purposes to such real estates as is devoted to purely public

charitable uses, and then only to such as belongs to an "institution."

Insanity Produced by Epilepsy.—In the murder case of State vs. Wright, where one of the special defenses was insanity produced by epilepsy, the Supreme Court of Iowa not only says that alienists universally recognize epilepsy as one of the most frequent causes of mental disturbance, but that the possible effect of epilepsy on the general mental condition is within the knowledge of all courts who have come in contact with the disease in the trial of cases involving mental unsoundness. Continuing, it states that, in determining the mental condition of a person at a given time, it becomes of the utmost importance to know his mental condition before that time, and to know also the effect of previous attacks of the disease, and whether or not they have left traces of an alteration of the intellectual functions. And, indeed, it declares, it takes it to be the rule that, in all cases involving the question of mental capacity, it is competent to go into the minutest details of the personal history of the one who is claimed to be mentally afflicted. Likewise, it deems it proper to show his physical and mental condition after the transaction in question. It also holds that, the defendant having shown by a certain physician that he had treated a sister of defendant for epilepsy, it was error not to allow him to show when. Moreover, one of the questions for the jury to determine being whether the defendant was drunk or in a fit of epilepsy when the fatal shot was fired, the court holds that the testimony of a witness offered to show the defendant's appearance, color of his face, etc., when drinking, and within a short time thereafter, was improperly refused. It holds that if the defendant was at the time temporarily insane, and his mental condition was caused by epilepsy, and if the attack may have been produced by drug in the liquor given him, it could not be said that he would be responsible for his act, though there may have been intoxication. But it does not consider the victim's dying declaration, that he did not think the defendant intended to shoot him, but thought that he was crazy, admissible in evidence, there being nothing in the evidence to show that this was his deliberate opinion, based on any facts which he had recited, the statement being but an opinion to which he could not have testified without giving to the jury the facts upon which he based his opinion.

United States Supreme Court on Cigarettes.—The Supreme Court of the United States holds constitutional, in the case of Austin vs. the State of Tennessee, the act of that state making it a misdemeanor punishable by a fine of not less than $50 for any person, firm, or corporation to sell, offer to sell, or to bring into the state for the purpose of selling, giving away, or otherwise disposing of, any cigarettes, cigarette paper, or substitute for the same. It first, however, insists that whatever product has from time immemorial been recognized by custom or law as a fit subject for barter or sale, particularly if its manufacture has been made the subject of Federal regulation and taxation, must be recognized as a legitimate article of commerce, although it may to a certain extent be within the police power of the states, and that of this class of cases is tobacco. It admits that the effects of tobacco may be injurious to some, but thinks that its extensive use over practically the entire globe is a remarkable tribute to its popularity and value. Anyhow, it is clearly of the opinion that tobacco can not be classed with diseased cattle or meats, decayed fruit, or other articles, the use of which is a menace to the health of the entire community. Cigarettes, it goes on to say, are but one of the numerous manufactures of tobacco, and it can not take judicial notice of the fact that it is more noxious in this form than in any other. Again, it says that they do not seem until recently to have attracted the attention of the public as more injurious than other forms of tobacco; nor, it says, is it prepared to take judicial notice of any special injury resulting from their use or to indorse the opinion of the Supreme Court of Tennessee that "they are inherently bad and bad only." At the same time, it declares that it should be shutting its eyes to what is constantly passing before them were it to affect an ignorance of the fact that a belief in their deleterious effects, particularly upon young people, has become very general, and that communications are constantly finding their way into the public press denouncing their use as fraught with great danger to the youth of both sexes. And, without undertaking to affirm or deny their evil effects, it thinks it within the province of the legislature to say how far they may be sold, or to prohibit their sale entirely, after they have been taken from the original packages or have left the hands of the importer, provided no discrimination be used as against such as are imported from other states, and that there be no reason to doubt that the act in question is designed for the protection of the public health. Moreover, it holds that a paper package of 3 inches in length and 1½ inches in width, containing ten cigarettes, is not an original package protected by the Constitution of the United States against any interference by the states while in the hands of the importer. Nor, it says, in the course of its opinion, can it deny to the legislature the power to impose restrictions upon the sale of noxious or poisonous drugs, such as opium and other similar articles, extremely valuable as medicines, but baneful to the habitual user.

Permanency in Practice as Evidence of Qualification.—The Supreme Court of Iowa holds, in the case of State vs. Blair, that the nature and extent of the qualifications required of practitioners of medicine are primarily for the determination of the legislature. No objection can be urged because of their severity, if appropriate to the profession, and attainable by reasonable study and application. They deprive no one of the right to practice medicine so long as all that is exacted is that every one who assumes to do so shall be possessed of the requisite knowledge and skill, and that this be evidenced by a certificate of the board designated by the state to ascertain his fitness. Nor does it consider unconstitutional the provision of the Iowa Code making one of the ways in which qualification might be evidenced prior to Jan. 1, 1899, that the physician had "been in practice in this state for five consecutive years, three of which time shall have been in one locality." It says that the statute recognizes that actual experience in the practice of medicine tends to render the physician capable. Success therein denotes the possession of learning and skill. Continuing in the profession several years in a particular locality indicates a degree of merit not likely to be found in a person moving from place to place. Indeed, it declares, it is a matter of general observation that the itinerant doctor, roving about, without remaining in one locality longer than a few days or weeks, is usually wanting in honesty, and too frequently but a charlatan or quack. Besides, such a professional residence affords the opportunity of becoming known by neighbors, and, if lacking in capacity or character, obstacles may be interposed to the issuance of a certificate; for it must not be overlooked that, notwithstanding continuous practice in one place, a certificate may be denied, owing to incompetency or immorality. In practical operation, the law admits those to practice who have followed the profession at one place long enough to acquire knowledge through experience in the profession, and to become known, unless want of capacity or good character affirmatively appears. Others must be examined or present diplomas. It makes a distinction recognized in all the affairs of life. And if, within the ordinary experience of men, and as a matter of common observation, physicians of learning, skill, and character are generally permanently located, and seldom change the place where their profession is followed, as appears to be true, the court says it can discover no tenable reason why this circumstance might not be treated by the legislature as evidence of qualification under the statute. In short, it thinks the distinction of the Iowa Code in this regard neither arbitrary nor unreasonable, but in harmony with common knowledge of differences which ordinarily exist between persons following the medical profession who have a permanent locus in quo, and those who do not. It adds that it is not unmindful that the Supreme Court of New Hampshire, in construing a somewhat similar statute, has held to the contrary, appearing to have grounded its conclusion on the erroneous assumption that permanency in the practice in a locality furnishes no evidence of qualification. But this, it says it has undertaken here to demonstrate, is not warranted.

Societies.

COMING MEETINGS.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

HILLSBORO COUNTY (Fla.) MEDICAL SOCIETY.—Dr. Louis A. Bize, Tampa, has been elected president of this Society; Dr. George H. Alltree, Port Tampa City, vice-president, and Dr. John S. Helms, Palmetto, secretary and treasurer.

BRASHEAR MEDICAL SOCIETY.—At the annual meeting of this Society, held in Bardstown (Ky.), Dr. Aloysius G. Blincoe was elected president; Dr. William W. Ray, Springfield, vice-president, and Dr. Wiley Rogers, Taylorsville, secretary and treasurer.

ST. JOSEPH COUNTY (Ind.) MEDICAL SOCIETY.—At the meeting of this Society, in South Bend, January 28, Dr. Fred P. Eastman, was elected president; Dr. George W. Van Benschoten, vice-president; Dr. Harry F. Mitchell, secretary, and Dr. Charles M. Butterworth, treasurer, all of South Bend.

KING COUNTY (Wash.) MEDICAL SOCIETY.—The twelfth annual meeting and banquet of this Society was held at Seattle, January 21. The following officers were elected: Dr. Caspar W. Sharples, president; Dr. John B. Loughary, vice-president; Dr. George H. Randell, secretary, and Dr. Frank M. Carroll, treasurer, all of Seattle.

NEWPORT (R. I.) MEDICAL SOCIETY.—The Society held its annual meeting January 18, and Dr. Henry Ecroyd was elected president; Dr. William S. Sherman, vice-president; Dr. Mary E. Baldwin, secretary; Dr. Douglas P. A. Jacoby, treasurer; Dr. Thomas A. Kenefick, curator; Dr. Charles W. Stewart, bacteriologist, and Dr. F. Jerome Davis, librarian.

UTAH COUNTY (Utah) MEDICAL SOCIETY.—At the meeting of this Society, January 10, a committee of three was appointed to co-operate with the medical societies of Salt Lake and Weber counties in presenting the proper and legitimate information to members of the legislature concerning a law governing vaccination and the powers of the boards of health.

SAVANNAH (Ga.) MEDICAL SOCIETY.—At the annual meeting of this Society, January 10, the following officers were elected: Dr. John W. Daniel, president; Dr. Ralston Lattimore, vice-president; Dr. Ralph M. Thomson, recording secretary; Dr. J. Lawton Hiers, corresponding secretary; Dr. J. L. Farmer, treasurer, and Dr. William E. Fitch, librarian.

FOX RIVER VALLEY MEDICAL SOCIETY.—The annual meeting of this Society was held in Green Bay, Wis., January 2. The following officers were elected: Dr. Abbott W. Slaughter, Green Bay, president; Dr. Alphonse M. Kersten, De Pere and Charles D. Boyd, Kaukauna, vice-presidents; Dr. James S. Reeve, Appleton, secretary and treasurer, and Dr. Herbert B. Tanner, Kaukauna, censor.

BLAIR COUNTY (Pa.) MEDICAL SOCIETY.—This Society met for its annual dinner at Altoona, January 24, and elected the following officers: Dr. Samuel P. Glover, president; Drs. Orr H. Shaffer and Robert J. Hillis, vice-presidents; Dr. J. Wesley Rowe, recording secretary; Dr. Mary Irwin Thompson, corresponding secretary and reporter, and Dr. William S. Ross, treasurer, all of Altoona.

ASSOCIATED PHYSICIANS OF LONG ISLAND (N. Y.)—The third annual meeting of this Association was held in Brooklyn, January 26. The following officers were elected: Dr. William B. Gibson, Huntington, president; Drs. Calvin F. Barber, Brooklyn, James S. Cooley, Glen Cove, and William H. Ross, Brentwood, vice-presidents; Dr. James C. Hancock, Brooklyn, secretary, and Dr. John P. Heyen, Northport, treasurer.

JACKSON COUNTY (Mich.) MEDICAL SOCIETY.—This Society completed its organization at Jackson, January 24, by adopting a constitution and by-laws in conformity with the "Code of Ethics of THE AMERICAN MEDICAL ASSOCIATION," and electing the following officers: Dr. Albert E. Bulson, president; Dr. Martha C. Strong, vice-president; Dr. A. H. Wilton, secretary, and Dr. Frederick W. Rogers, treasurer, all of Jackson.

DENVER AND ARAPAHOE MEDICAL SOCIETY.—At the annual meeting held in Denver, Colo., January 8, the following officers were elected: Dr. Horace G. Wetherill, president; Henry Sewall, vice-president; Dr. Walter Holden, secretary; Dr. George H. Stover, financial secretary; Dr. Edwin J. Rothwell, treasurer, and Drs. Edgar P. Hershey, Walter A. Jayne, Edward Jackson, Josiah N. Hall, and Leonard Freeman, board of censors, all of Denver.

SOUTHWESTERN MEDICAL ASSOCIATION OF TEXAS, NEW MEXICO, ARIZONA AND MEXICO.—This Association met at El Paso, Texas, January 23, for organization, and elected Dr. Charles T. Race, El Paso, Texas, president; Drs. Samuel D. Swope, Deming, N. M., T. H. Swayne, Chihuahua, Mexico, and Hiram W. Fenner, Tucson, Ariz., vice-presidents; Dr. John J. Gilbride, El Paso, Texas, secretary, and Dr. Stephen T. Turner, El Paso, Texas, treasurer.

RENSSELAER COUNTY MEDICAL ASSOCIATION.—The members of the Second District Branch of the New York State Medical Association, 43 in number, met in Troy, January 10, and organized the Rensselaer County Medical Association, adopted by-laws and elected the following officers: Dr. Charles S. Allen, Rensselaer, president; Dr. Matthew B. Hutton, of Valley Falls, vice-president, and Dr. Frederick F. A. Smith, Troy, secretary and treasurer.

ORLEANS PARISH (La.) MEDICAL SOCIETY.—At the meeting of this Society, held January 26, Dr. E. Denegre Martin, New Orleans, read a paper on spinal anesthesia, in which he advocated the theory that disturbance of the cerebrospinal fluid causes the unpleasant after-effects of this mode of anesthesia and suggested the use of small quantities of more concentrated solutions—4 minims of a 5 per cent. solution—as likely to cause the minimum of such disturbance.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI, ST. LOUIS (Mo.).—At the annual meeting of this Society, held December 20, the following officers were elected for the ensuing year: Dr. Norvelle Wallace Sharpe, president; Dr. Francis L. Reder, vice-president; Dr. John Green, Jr., secretary, and Dr. Horace W. Soper, treasurer. At a special meeting, held January 31, Mr. Charles F. Longfellow, superintendent of public buildings, exhibited the plans for the buildings of the new city hospital.

WESTCHESTER COUNTY (N. Y.) MEDICAL ASSOCIATION.—The members of the Fifth District Branch of the New York State Medical Association, residing in Westchester County, met for organization at Portchester, January 22. The meeting was called to order by Dr. Frederick Holme Wiggin, New York City, who explained the plan of organization of, and also called attention to the by-laws of, the state association regulating the organization and government of the county associations. After some remarks on the same subject, by Dr. John A. Wyeth, New York City, president of the state association, and by Dr. Parker Syms, president of the New York County Association, Dr. Edward F. Brush, Mount Vernon, was elected temporary chairman. The following officers were then elected for the ensuing year: Dr. Norton J. Sands, Portchester, president; Dr. J. Lindsay Porteous, Yonkers, vice-president, and Dr. Donald D. T. MacPhail, Purdy Station, secretary and treasurer. Dr. Edward F. Brush, Mount Vernon, was elected Fellow of the State Association as delegate to THE AMERICAN MEDICAL ASSOCIATION, and Dr. H. Eugene Smith, Mount Vernon, alternate fellow and delegate.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held January 7.

Wounds of Venous Sinuses of the Brain.

DR. HENRY R. WHARTON delivered the annual address, on this subject, based on examinations of 70 cases; his personal experiences had been limited to 5 cases.

He cited the case of a boy 12 years old, who had been struck on the occipital bone, a depressed fracture resulting without any marked immediate symptoms, though they appeared the following day, justifying an operation, which revealed that the sinus in this region had been injured, as profuse hemorrhage occurred. Death subsequently followed.

In a second patient, 22 years of age, who had sustained a depressed fracture of the occipital bone, this was elevated, terminating in recovery.

Another case was caused by a compound depressed fracture of the right parietal bone, and at the operation very profuse hemorrhage occurred; recovery followed.

A fourth patient had sustained a fall, striking on the head, but without any immediate symptoms, as he was afterward able to get up and walk into the house. Next day symptoms of compression appeared and he became partially paralyzed on the left side. On the right parietal bone was found a hematoma, and at the time it was not believed that a fracture of the bone

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had occurred. An operation was done, the hemorrhage controlled by gauze packing, and the patient recovered.

A male of 18 years, who had been struck on the head by a bucket, afforded the fifth case. He sustained a depressed fracture of the right parietal bone, and on removing the fragments of bone there was severe hemorrhage, controlled by gauze packing; recovery followed.

Summarizing the results obtained in the treatment, as shown by the literature on the subject, it might be said that wounds of the venous sinuses of the brain are of infrequent occurrence on account of the protection afforded. In the 70 cases recorded the superior longitudinal sinus was most frequently injured, the lateral next, then the straight, and lastly the cavernous sinus. Of the 70 recovery occurred in 25 per cent. In some instances hemorrhage resulting from the injury of these sinuses was beneficial, as pressure symptoms might be thus prevented. Wounds of these sinuses generally result from direct violence, as gunshot wounds, injuries during childbirth, etc. Some of the older writers did not regard the prognosis as dangerous. Intracranial hemorrhage was present in 26 per cent. of the above 70 cases. If hemorrhage does not occur it may give rise to a blood clot, causing compression. Air embolism was the cause of death following an operation in two instances. A thrombus may occur at the site of injury.

The symptoms of wounds in these sinuses are not always prominent. Those present were generally found to be due to pressure or were symptoms resembling those of apoplexy. If the pia be torn the blood will accumulate under the dura mater. Unconsciousness is not generally present.

As to the diagnosis, sometimes the character of the blood may determine it, especially when attended by injury in the region of one of the sinuses and when attended by symptoms of compression.

The treatment varies. In depressed fractures trephining should be done and the bone removed. To control hemorrhage different methods have been tried. The best is by gauze packing. Others have used the lateral suture method, some the ligature and Dr. W. J. Taylor once applied hemostatic forceps, controlling the hemorrhage. The gauze may contain iodoform or simply be sterilized. The strips should be about two inches in width and should remain in position from three to six days. The very greatest care should be used to prevent sepsis.

DR. O. H. ALLIS stated that the diagnosis is uncertain. In some cases he had seen prominent symptoms had not been present. In one of severe injury of the head he had at the autopsy noticed thousands of minute hemorrhages. In injuries of the head he considers it best to shave the entire head so the parts can be better examined.

DR. W. G. PORTER reported seeing one case of wound of the longitudinal sinus resulting from a puncture of a hay-rake, and had been astonished at the amount of gauze that could be inserted without causing pressure symptoms in sinus injuries.

DR. R. H. HARTE had been convinced that these wounds were rare, but in these he would not include such injuries as a severe crush of the skull, as in railroad injuries. In 20 cases of fracture of the skull, which he had seen within the past three months, there had been no wound of the sinuses, and of 114 of fracture of bones of the skull there had been but 1, and that a pin-point puncture. As to suturing large veins, he believes it often saves life, and in one instance he sutured a wound of the jugular vein with success.

DR. W. L. RODMAN had been surprised at the infrequency of wounds of the sinuses of the brain, since fractures in this region are so common. He had only seen 2 such cases. He believes that pyemia is a frequent cause of death in these injuries, and urged early operation. For controlling hemorrhage he considered gauze packing the best, but he had in one instance used the lateral ligature.

DR. THOMAS R. NEILSON had seen 3 cases of injuries of the venous sinuses of the brain, 2 of the lateral and 1 of the inferior longitudinal sinus. He had used the gauze packing.

DR. W. J. TAYLOR had seen two of the patients reported by Dr. Wharton. In one, when one of the small spicules of bone was removed there was a sudden gush of blood. He believes that a sudden loss of blood from the brain is a more serious matter than the same amount of blood from some other portion of the body.

DR. R. G. LECONTE did not understand why hemorrhage from the vein in this region should be so fatal. If it were arterial blood, then it might be a different matter.

DR. G. G. DAVIS thought that probably injuries of the sinuses of the brain occur more frequently than one might think, as reported by the previous speakers. As to hemorrhage in head injuries, it might easily occur from the middle meningeal artery. In other cases it might be from the pia mater, giving rise to subdural hemorrhage, and either might cause pressure symptoms. In one instance he had treated what he believed to be a wound of the cavernous sinus resulting from a fall, the patient striking on the frontal bone. The wound was packed with gauze and the man recovered.

DR. DE FOREST WILLARD had seen 3 cases of wounds of the venous sinuses of the brain, 2 of which were injuries of the superior longitudinal, and 1 of the lateral sinus. He is inclined to the belief that hemorrhage from the brain is not such a very serious matter.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held January 10.

President, Dr. F. A. Packard, in the chair.

DR. JOSEPH MCFARLAND presented a specimen of "Epithelioma of the Mouth and Skin of a White Catfish," also a "Case of Thrombosis of all Four Chambers of the Heart."

Hourglass Contraction of Stomach.

DR. IDA RICHARDSON and J. D. STEELE exhibited an hourglass contraction of the stomach.

DR. JOSEPH MCFARLAND stated that he had seen two cases of this condition, usually considered to be of congenital origin.

DR. F. A. PACKARD had also seen a similar case to that presented, also undoubtedly of congenital origin.

DR. DAVID RIESMAN thought that, as the stomach is simply a tube formed from the hypoblastic tissue, an examination of the tissues might tell whether it had the characteristics of the bowel, or whether the glandular structures of the normal stomach were present.

DR. STEELE said that most writers are of the opinion that such conditions arise from a scar causing contraction.

Nerve-Fibers in the Pia and Cord Regeneration.

DRS. F. X. DERCUM and WILLIAM G. SPILLER read a paper on this subject. Dr. Spiller said that the existence of medullated nerve-fibers in the spinal cord is a very rare condition. In the instance reported they had been found in the pia. There had been no degeneration in the posterior roots, and the columns of Goll had been only slightly degenerated. From the existence of many nuclei along the outer layers the sheath of Schwann might also have been present. In this case there had been no evidences of restoration of function in the spinal cord.

DR. D. J. MCCARTHY stated that in a case of adiposa dolorosa examined there had been no regeneration in the cord.

Aspergillus in Urine.

DR. L. NAPOLEON, Boston, read a paper entitled "Cultivation of the Aspergillus in Urine." At the Philadelphia Hospital he had frequently met with this micro-organism, and had cultivated it on diabetic urine. Aspergillus grown on urine had never produced an alkaline reaction, but on sterile acid diabetic urine it had become alkaline on the sixth day.

Diagnosis of Rabies.

DRS. M. P. RAVENEL and D. J. MCCARTHY read a paper entitled "The Rapid Diagnosis of Rabies," a continuation of the communication presented last June. Formerly, in making a diagnosis of this condition, from two to four weeks were required. His method of preparing the specimens is to fix the tissues in 10 per cent. formalin, and afterward harden them in absolute alcohol for twelve hours, then carrying them through chloroform, imbedded in paraffin and stained with Weigert's methylene blue, or with eosin and hematoxylin. He has examined 28 cases of rabies occurring in dogs, horses and other lower animals, and in 19 out of 21 he has been able to find the rabid tubercle as well as the chromatolysis heretofore described.

The speaker detailed a case of a girl 8 years of age, who had been bitten on the ear by a dog supposed to be mad, six weeks previous to the onset of the symptoms. The wound had been cauterized by nitrate of silver and had healed promptly. On the appearance of the first manifestations the child complained of distress when her face was cleansed with a dampened towel. On attempting to swallow water, spasm of the muscles of the throat occurred. Later, fever developed, as did convulsive seizures, some of which were followed by periods of unconsciousness, and finally death. At the autopsy minute hemorrhages of the brain were found, and some of the material inoculated into rabbits and carried through four generations produced the disease. Cultures were repeatedly made but always remained sterile, proving that the micro-organism of this disease is different from that of any other type.

DR. F. KRAUSS detailed the clinical history of this case. The child had never been informed that the bite of the dog had anything to do with her disease. The spasm of her throat was most intense, and the temperature ranged from 100 to 103. The condition conformed in all its symptoms to those detailed by Osler.

Bronchial Cyst.

DR. W. M. L. COPLIN reported a case of this condition in a patient of 36 years. It was operated on by Dr. W. W. Keen. Beginning three years ago, within eight months it had grown as large as an almond, and subsequently becoming painful the operation was decided on. The cyst was lined by epithelium resembling that of the pharyngeal mucosa and tonsils.

Infarcts from Enterocolitis.

DR. WILLIAM PEPPER presented specimens of the liver, kidneys and spleen from a case of enterocolitis occurring in a child of three months of age. The liver showed a marked degree of fatty degeneration, and the kidneys exhibited a large number of hemorrhagic infarcts.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting held January 22.

Aneurysm of Innominate and Aorta. Insertion of Silver Wire. Recovery.

DR. LEONARD FREEMAN exhibited a patient who suffered from aneurysm of the innominate artery with involvement of the arch of the aorta. When the patient came under Dr. Freeman's observation, the right clavicle was dislocated from pressure of the aneurysm, the sternum was eroded, there was dyspnea due to pressure on the trachea, eye symptoms were present and aphonia. The administration of potassium iodid and the injection of gelatin were tried without effect. The aneurysm increased in size and all the symptoms became aggravated. In August, 1900, five feet of silver wire was introduced on an insulated needle, the negative pole of battery attached and 75 milliamperes of electricity used for half an hour. The needle was then removed. The improvement was slow, but steady. Only a slight heaving remains and the tumor is imperceptible. All the symptoms improved correspondingly. The voice returned; no dyspnea. Dr. Freeman reported a similar case in a man of 50 years of age. There was profuse hemorrhage on introducing the needle, which was checked as soon as the electric current was turned on.

DR. JOHN S. MILLER in discussing the subject said that therapeutics has contributed very little to the cure of aneurysm, and we still look to surgery for its relief. Several years ago he ligated the common carotid and subclavian arteries for aneurysm of the innominate artery involving the arch of the aorta. The patient improved considerably, but died sixty days later, from rupture of the sac. The needle should be short, to facilitate the easy and prompt introduction of the wire. It should be directed away from the heart, so that the wire or its kinks may not enter the semilunar valves. If fifteen to twenty feet of wire can be introduced, it is all the better. He suggested that while the current is on the common carotid artery be compressed with a view to preventing the migration of any coagulum that might possibly become detached from the wire during its introduction.

Symposium on Recent Epidemic of Influenza.

DR. W. C. MITCHELL, in speaking of the bacteriology of influenza, dwelt on the importance of making bacteriologic examinations by which the advent of an epidemic may be predicted with certainty and the proper prophylactic measures adopted. He remarked that the bacteriologists of the Chicago Board of Health predicted an epidemic of influenza as early as November last, and then mentioned the tenacity with which the bacteria of Pfeiffer hold to the patient. He found the bacteria in 1898 in a patient who had influenza in 1895.

DR. W. N. BEYZS, in speaking of the pathology of influenza, dwelt on the fact that in sporadic cases the mortality is greater than in epidemic cases.

DR. G. E. TYLER believes in the contagiousness of the disease. The first case occurring in a family should be isolated, and the discharges disinfected. Sudden chilling and public assemblies should be avoided during epidemic.

DR. C. B. VAN ZANT had observed, during the recent epidemic, cases simulating appendicitis and peritonitis. In one the rectum was involved and he noticed swelling of the lymphatic glands, while in another there was dysphagia out of proportion to slight involvement of the pharynx.

DR. A. ZEDERBAUM considered the recent epidemic as mild compared with that of 1889. He had observed a tendency to ear complications, and two cases in the same family were complicated with mastoiditis, and in one both mastoids had to be drained. His youngest patient was 9 months old, and the oldest 78 years.

DR. C. D. SPIVAK had noticed a peculiar yellowish hue of the sclera in almost all of his patients, and in one the jaundice was universal. He mentioned the extraordinary loss of weight in all cases, and reported a case which during convalescence developed grave gastrointestinal sequelæ.

DR. H. B. WHITNEY had administered 10 grains of quinin daily to all his patients. For the headache he gave phenacetin and caffein every hour, and codein for the pain; also strychnin freely. He has had but two complications in over one hundred treated.

DR. WILLIAM H. BERGTOLD said he had never used quinin. He considers the administration of a coal-tar preparation with salicylic acid almost specific, and prescribes phenacetin with salophen. The dose of salophen should be from 25 to 45 grains. He believes we will have, in the near future, an antitoxin serum for influenza. In the infectious types of influenza he uses Crede's ointment.

DR. J. W. HALL dwelt on the uncertainty of prognosis in influenza complicated with pneumonia.

DR. J. T. ESKRIDGE divided the nervous symptoms into those occurring at the onset of the disease, accompanying it, and the sequelæ. He considers the nervous phenomena as a disease, not symptom. In one patient the disease was ushered in with delirium and death followed the next day. In another, optic neuritis developed early. Neurasthenia is a frequent sequela.

DR. B. OETTINGER reported a case of influenza complicated by abscess in the antrum.

DR. R. LEVY corroborated the statement of Dr. Zederbaum with reference to the prevailing complication of ear troubles.

DR. M. BLACK had several cases of middle ear complication and advises early puncture of the drum. He used leeching with considerable advantage.

DR. T. J. GALLAGHER decried the use of the nasal douches which give directions to hold the head backward and to close one nostril, for the use of this douche has caused many middle-ear inflammations.

DETROIT MEDICAL SOCIETY.

Meeting held Jan. 16.

Surgery of Purulent Otitis Media.

DR. EMIL AMBERG gave a short sketch on this topic, with a demonstration of prepared specimens. He said that a paracentesis, as such, is practically harmless, and that danger accompanies only a delay. The curative value of the incision and the prophylactic were considered. An early paracentesis is especially indicated in otitis after influenza. The necessity

of timely removal of a polypus is obvious. Diseased ossicles should be removed in order to get rid of a focus of infection, and also to make the epitympanic space more accessible to treatment. He pointed out that we frequently find general practitioners, and quite a number of oculists, speaking with a feeling composed of fear, impatience and disgust of the treatment of diseases of the ear. The teaching on ear diseases in general seems not to be carried out with the necessary thoroughness, and it is to be regretted that the combination, oculist and aurist, is still upheld in many parts of the country. We should prefer to be without the expression, "the personal equation of the surgeon." This term is intended to excuse the non-interference in cases requiring interference, if the physician is unable to take a hand. Nothing is more dangerous than an excuse based on hypothetic and unscientific reasons under so plain and simple circumstances. He described the various operations and showed a large number of prepared specimens illustrating the anatomy of the ear, the mastoid and the radical operation.

Non-Operative Treatment of Ear.

DR. EUGENE V. RIKER also read a paper, saying: One of the first things demanded of the physician by a person suffering from acute inflammation of the middle ear is relief from pain. If seen at the commencement, the patient should be put to bed, a saline cathartic administered, and dry heat applied. Avoid all kinds of oils, aqueous solutions and moist heat. Some recommend solutions of cocain, atrophin, and morphin, alone or in combination, but I cannot see how they can be absorbed when the drum is intact, for I have never been able to render a non-perforated drum insensible, even when there was marked inflammation present, by the use of the strongest solution of cocain. If the alkaloids are not absorbed the relief, if any, is due to the heat, which is far better supplied dry, for when water is poured into the ear and allowed to run out immediately, some is sure to remain in a depression in front of the drum and thus act as a poultice, which would favor the breaking down of tissue in rupture of the drum. Opium, in my mind, should seldom be used, for it is not possible at the outset to tell the nature of the infection, and in case of mastoid involvement it might mask the symptoms until it was too late for successful operative interference.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), January 26.

1 *Early Diagnosis of Mammary Tumors. George F. Shrady.
2 *Some Further Work on the Mosquito-Malaria Theory, with Special Reference to Conditions Around New York. William N. Berkeley.
3 *The Causation, Prevention, and Treatment of Gout. Alexander Haig.
4 *The Non-Myxematous Character of Nasal Polypi. Jonathan Wright.

Philadelphia Medical Journal, January 26.

5 Two Cases of Epiplopexy in Cirrhosis of the Liver. John B. Roberts.
6 *The Surgery of the Stomach. Albert I. Bouffleur.
7 *A Case of Ligature of the Innominate Artery for Aneurysms. S. P. Delaup.
8 *Branchial Cysts and Fistulæ. W. M. L. Coplin.
9 *Method for Rapid Elimination of the Gonococcus. Follen Cabot, Jr.
10 *Retardation of Growth as a Cause of Shortening After Coxitis. Henry Ling Taylor.
11 *A Report of a Case of Rabies. Frederick Krauss.

New York Medical Journal, January 26.

12 *Gastro-enterostomy by the Elastic Ligature. Theodore A. McGraw.
13 *Cereals, Emulsions and Proteids in Infant Feeding. T. M. Rotch.
14 *Septicemia—Acute Bacteremia; and Pyemia—Chronic Bacteremia. The Indications for Hysterectomy and the Indications for Abdominal Section and Drainage in Puerperal Infection. H. J. Boldt.
15 *Observations on Toxic Effects of Some Common Drugs. Philip F. Harvey.
16 *The Treatment of Influenza. W. H. Thomson.

Boston Medical and Surgical Journal, January 24.

17 A Short Abstract of the Early History of Medicine in Massachusetts to the Year 1800. Elbridge G. Cutler.
18 *The Great Toe (Babinski) Phenomenon: A Contribution to the Study of the Normal Plantar Reflex Based on the Observation of One Hundred and Fifty-six Healthy Individuals. Morton Prince.
19 A Case of Obliteration of the Right Ureter by a Calcified Fibroid; Removal of Fibroid and Implantation of the Ureter into the Bladder; Recovery. Maurice H. Richardson.
20 *A Case of Vesical Implantation of the Ureter by Dudley's Forceps Method After the Failure of Several Plastics. Edward Reynolds.
21 *Pregnancy Following Removal of Both Ovaries and Tubes. M. A. Morris.

Medical News (N. Y.), January 26.

22 *Lakewood as a Winter Resort. William G. Schauffler.
23 *The Climatic Treatment of Chronic Bright's Disease. James Tyson and T. Mellon Tyson.
24 *Treatment of Syphilis at Hot Springs, Ark. James T. Jelks.
25 *Some Topographical and Climatic Features of the Florida Peninsula, with Special Reference to Its Adaptiveness as a Winter Health Resort. James K. Crook.
26 *The Climatology of Neurasthenia. F. Savary Pearce.
27 *The Tonsils as Portals of Infection. Julius Ullman.

Cincinnati Lancet-Clinic, January 26.

28 *Etiology and Diagnosis of Acquired Heart Disease in Children. Alfred Friedlander.
29 *Resinol Dermatitis. A. Sydney Reynolds.

Virginia Medical Semi-Monthly (Richmond), January 11.

30 Malaria: Its Etiology, Symptoms, and Diagnosis. H. Stuart MacLean.
31 Locomotor Ataxia. Clifton Mayfield.
32 The Modern Cesarean Section. Edward P. Davis.
33 A Brief Clinical Report of Three Cases of Perforation in the Alimentary Canal. Thomas H. Manley.
34 Diagnosis and Treatment of Purulent Disease of the Nasal Accessory Sinuses. O. A. M. McKimmie.

Pediatrics (N. Y.), January 15.

35 *Analysis of Five Hundred Cases of Lateral Curvature of the Spine and Treatment. Chisholm Williams.

Medical Sentinel (Portland, Ore.), January.

36 Arizona. Franklin Cauthorn.
37 Position in the After Treatment of Abdominal Operation. D. W. Springer.

Interstate Medical Journal (St. Louis), January.

38 *The Nephritides of Children. R. B. H. Gradwohl.
39 The Surgery and Medicine of Other Times. Thomas C. Minor.
40 *Asthma. R. Alexander Bate.
41 About Dwarfs. Lawrence Irwell.
42 A Few Cases of Secretory Neurosis of the Stomach. M. D. Schmalhorst.

Journal of Medicine and Science (Portland, Me.), January.

43 Anatomy and Physiology of the Kidneys. Chas. O. Caswell.
44 Uranalysis. Albion H. Little.

Clinical Review (Chicago), January.

45 *The Treatment of Epitheliomas of the Skin, with Report of Cases. William A. Pusey.
46 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
47 *Substitute Infant Feeding in General Practice. Julius Noer.

Chicago Medical Recorder, January.

48 *Malaria—Its Causation and Prevention. Edward F. Wells.
49 *Pernicious Malaria. Arthur R. Edwards.
50 *The Crescent Form of Malarial Parasite. Robert B. Preble.
51 *Treatment of Malarial Infection. Henry B. Favill.
52 *Scope of Medullary Anesthesia. Samuel L. Weber.
53 A Case of Acromegaly. Joseph Zeigler.
54 A Case of Acromegaly. Frederick Menge.
55 Surgical Cases. (Case of Intussusception, Case of Extra-uterine Pregnancy.) Sylvan Kunz.
56 Hartley-Krause Incision in Gunshot Wound of the Brain. E. W. Andrews.
57 Ovarian Cysts in Colored Women, with Notes on the Relative Frequency of Fibromata in Both Races. Daniel H. Williams.
58 An Eruption Resembling Pemphigus Vegetans in an Infant. E. A. Fischkin.

University Medical Magazine (Philadelphia), January.

59 A Sketch of Dr. Alfred Stille. Charles W. Burr.
60 *The Rapid Diagnosis of Rabies. Mazyck P. Ravenel and D. J. McCarthy.
61 *Remarks on the Importance of the So-called Specific Lesions of Rabies. William G. Spiller.
62 *Experimental Pancreatitis. Simon Flexner.
63 *Investigation of the Influence of Kalagua in Experimental Tuberculosis. D. H. Bergey.
64 *The Diagnosis of Leukemia from the Standpoint of the Blood Changes. C. Y. White.

Providence Medical Journal, January.

65 State Sanatoria for Tuberculosis. Vincent Y. Bowditch.
66 State Sanatoria for Tuberculosis. Edward O. Otis.
67 Subcutaneous Nutrient Injections. George F. Keene.
68 Report of Two Cases of Traumatic Rupture of the Kidney, with Operation. George D. Hersey.
69 The Eruptions Attending Epidemic Influenza, with Some unusual Cases. Barnard Arnold.
70 Report of Two Cases of Normal Pregnancy and Labor Following the Operation of Ventro-suspension. Jacob C. Rutherford.
71 Two Cases of Pregnancy Following Ventro-Suspension. G. W. Porter.
72 Two Cases of Normal Labor Following Alexander's Operation. John W. Keefe.
73 Diphtheria: Treatment and Mortality at the Rhode Island Hospital. Albert H. Miller.
74 The Specialist from the Practitioner's Point of View: A Travesty. W. F. Gleason.
75 Anterior Metatarsalgia. J. C. Pegram, Jr.
76 Report of a Case of Splenectomy. J. B. McKenna.

Medicine (Detroit, Mich.), January.

77 *Every-Day Headaches. Hugh T. Patrick.
78 *Relation of Eye-Strain and Pneumogastric Reflexes to Digestive Disorders. A. L. Benedict.
79 *Membranous Colitis. John A. Robison.
80 Hepatic Abscess. John G. Wishard.
81 Examination of the Stomach Contents with Respect to Fermentation Products and Abnormal Constituents—Beside Tests. Frederick A. McGrew.

The Ophthalmic Record (Chicago), January.

82 *Hysterical Alopecia of the Eyelids. H. Gifford.
83 Corneal Ulcer Following an Advancement Operation on the External Rectus Muscle. Warwick M. Cowgill.
84 Has the Cornea no Fixed Dioptric Value? Carl Weiland.
85 Traumatic Luxation of the Crystalline Lens; Secondary Glaucoma; Extraction without Loss of Vitreous; Recovery with Normal Vision. C. A. Veasey.

Archives of Pediatrics (N. Y.), January.

86 *Congenital Stenosis (Spasmodic) of the Pylorus; Recovery. Thomas S. Southworth.
87 *Retropharyngeal Abscess and Adenitis. Irving M. Snow.
88 Pyelonephritis in Children, with Report of a Case in Which Nephrectomy was Successfully Performed. Louis Fischer.
89 *Clinical Notes on Scurvy in the Island of Cuba and Its Connection with Progressive Pernicious Anemia. J. L. Duenas.
90 Remarks on the Pathogenesis and Prophylaxis of Acute Rheumatic Fever in Children. Henry Heiman.
91 Malarial Coma in a Boy. E. P. Stone.

Western Medical Review (Lincoln, Neb.), January 15.

92 *The Colon Bacillus in Its Causative Relation to Suppurative Inflammations. Walter L. Bierring.
93 *The Choice of Operation for Stone in the Bladder. Byron B. Davis.
94 The Health of High School Girls. Inez C. Philbrick.
95 Resection of Radial Nerve for Removal of Very Painful Neuroma. F. A. Long.

The Post-Graduate (N. Y.), January.

96 The Symptoms, Diagnosis and Treatment of Fecal Impaction. Samuel G. Gant.
97 Notes on Some Affections of the Heart Substance, with Illustrative Cases. Thomas E. Satterthwaite.
98 Some Neurological Notes. 1. Case of Congenital Defect in Growth of the Left Lower Extremity. Ichthyosis. 2. A Case of Right Facial Palsy of Mild Degree. 3. A Case of Traumatic Facial Paralysis of the Right Side. 4. A Case of Cerebral Disease Simulating Neoplasm at the Base of the Brain. 5. A Case of Imbecility with Marked Dolichocephaly. 6. A Case of Disturbance of Memory. 7. A Case of Chorea Caused by Mental Emotion in a Predisposed Child. Philip Meirowitz.
99 Notes from the Clinics. Dr. Caille.
100 "Hip-Joint Disease." The Causes of Its Deformities and Its Proper Mechanical Treatment, with a Description of "Phelps' Lateral Traction Splint." A. M. Phelps.

International Medical Magazine (N. Y.), January.

101 *The Oxygen Treatment of So-called Uric Acid Lesions. Alfred C. Croftan.
102 *The Uric Acid Diathesis. James Tyson.
103 *Practical Home Methods of Bathing in Typhoid Fever. Simon Baruch.
104 The Value of the Tuberculin Test in the Diagnosis of Pulmonary Tuberculosis. J. M. Anders.
105 The Consideration of Lithemia as a Factor in Surgical Work. E. E. Montgomery.
106 Chronic Vesiculitis (Non-Tubercular), with Special Reference to the Technique of Stripping. J. D. Thomas.
107 Some Remarks on Uric Acid and Its Effects upon Pregnancy. John C. Hirst.
108 The Prognosis and Treatment of Dilatation of the Stomach. Boardman Reed.

Pacific Medical Journal (San Francisco), January.

109 Prognosis and Treatment in Pulmonary Tuberculosis. Robert McGuire.
110 Bubonic Plague: Its Prevention and Cure. Winslow Anderson.
111 Formaldehyde, Methylaldehyde, Oxymethylene or Formic Aldehyde, with most Important Combinations. P. A. Dubois.

Therapeutic Gazette (Detroit, Mich.), January 15.

112 *Lymphatic and Portal Infections Following Appendicitis. John C. Munro.
113 *The Real Value of Quinin in Labor. M. H. Fussell.
114 *Medullary Narcosis. W. L. Rodman.
115 "Cold in the Head:" How It May be Avoided and How to Treat It. George C. Stout.
116 Gonorrhea and Its Treatment from the Present Standpoint. Henry J. Scherck.
117 A Study of Some Heart Lesions and of Some of the Measures for Their Relief. (Concluded.) H. A. Hare.
118 A Report of a Case of Resection of a Large Portion of the Ilium for Chondrosarcoma. W. Joseph Hearn.

New England Medical Monthly (Danbury, Conn.), January.

119 The Electric Light in Medical Practice. Richard Kreutzberger.
120 A Local Medical Society. Hopkins Pond.
121 Burns, Lacerations, Ulcers, A Clinical Study. J. W. P. Smithwick.
122 Is Calomel Necessary? G. A. Gilbert.
123 Cephalotropsy, with Report of Fourteen Cases. John J. Berry.
124 The After Treatment of Malarial Attacks. M. B. King.
125 A Curative, Not a Palliative Remedy in Diabetes Mellitus. L. Goldstein.
126 The Value of H_2O_2 in the Treatment of Chronic Purulent Otitis Media. G. A. Gilbert.

AMERICAN.

1. **Mammary Tumors.**—The special point of Shrady's paper is the importance of the early diagnosis of malignant diseases of the breast. All cases of breast tumors should be suspected. No growths in this region can be trusted. Fully 90 per cent. of breast tumors in older women are malignant, and the remaining 10 per cent. very objectionable. The safe side, then, is the removal of all growths, whether in the young or in the old.

2. See abstract in THE JOURNAL of February 2, p. 343.

3. **Gout.**—Haig details his well-known theories as to the causation of gout. He thinks it is due to poisoning by flesh, tea, etc., or some substances which introduce uric acid into the body in large quantities, where it may remain and also prevent the excretion of the naturally formed uric acid. In this saturated condition the fibrous tissues may be irritated, producing gout or rheumatism; the capillaries may be disturbed, causing a group of circulation diseases, uric acid headache, epilepsy, insanity, anemia, Bright's disease, etc. All the diseases produced by uric acid fall into these two groups, the local and circulation groups, of which the latter is far more extensive. The indications for treatment are to cut off the poisons so that the introduction shall cease, and to provide for elimination. He thinks that altering the diet alone sometimes produces improvement, but the main point is to get substances which increase the solubility of uric acid in the blood. The action of the salicylates in the circulation are given, cases pointed out and the dietetic rules which should tend to improvement of the conditions.

4. **Nasal Polypi.**—Wright argues that the so-called nasal polypi are not myxomatous, as so commonly held, but simply edematous infiltrations, and that the recognition of this fact is a necessary preliminary to understanding the non-nasal morbid processes.

6. **Surgery of the Stomach.**—Boufflleur's paper is a review of the conditions of the stomach requiring operation and the measures that have been devised for their relief.

7. **Ligature of the Innominate.**—Delaup reports another case of ligature of the innominate artery for high innominate, carotid and subclavian aneurysm, followed by simultaneous double ligature of the common carotid and vertebral arteries at a subsequent operation. Death occurred after the second operation, from exhaustion, twenty-one days after the first. The

author reviews the literature and gives a tabulated list of cases. Of the four successful ones, only one approached being a complete cure, and the patient died from hemorrhage from aneurysm ten years after the operation. He thinks that in the future, with modern aseptic methods, a better record will be made, as the operation is justifiable and advisable under certain circumstances.

8. See abstract on p 402.

9. **Gonorrhea.**—Cabot's plan of treating gonorrhea with argonin is to begin within twelve or thirty-six hours after the first signs of anterior urethritis with no old deep trouble. He first takes a specimen of the discharge for microscopic examination, then the patient passes urine, after which the urethra is washed out with hot water. Then twice a day a 10 per cent. solution of argonin, freshly made, is introduced by Ultzman's deep injection syringe, or better still, by a rubber bulb holding about 6 drams. The bulb should have a rubber tip about two inches long, and be such as are sold under the name of ulcer syringes. The solution is introduced hot, and kept in the front urethra by pressing the lips of the meatus together as the point of the bulb is withdrawn. Then an application of 10 per cent. argonin solution is made with an applicator tightly wrapped with absorbent cotton introduced into the urethra, while the solution previously introduced is allowed to gradually flow out. The cotton swab should be gently applied to all parts of the anterior urethra for two to three inches, and then withdrawn. The solution remaining in the urethra is then allowed to escape and the operation repeated, not using the applicator if the patient suffers much from it. In some cases gentle kneading of the urethra while the solution is in place is advantageous. Everything must be done gently and slowly, and the solution be kept in for five or ten minutes. Cabot disapproves of the use of cocain, as it interferes with the patient's testimony as to his sensations, thus gauging the conditions. The first two or three treatments will usually show how the case is going to turn out. If all is going well, the disease remains stationary for two or three days and then gradually subsides. Internally, citrate of potash may be given to render the urine bland. The patient is directed to soak the penis in hot water three times daily, and the general condition of his health, the use of alcoholics, etc., restricted, and he should be kept as quiet as possible. If the progress is favorable, the strength of the solution is gradually increased up to as much as 30 per cent., and after several days, if he is still doing well, an astringent injection of lead acetate, tannic acid, zinc sulphate, copper sulphate—of each 2 grains, in tablets—in from four to eight ounces of water, is to be used by the patient after each urination. The argonin treatment is additional and must be given by the physicians. He says, in conclusion, that this method of treating incipient gonorrhea is safe, and all his cases have been satisfactory so far as traced, and have shown permanent results, there being no return later from deep lesions. The solution must be freshly prepared each time, and must be used hot, at a temperature of 110 to 120. There is no use in attempting to make a rapid cure this way unless the patient is prepared to implicitly follow the physician's directions in all particulars.

10. **Shortening After Coxitis.**—Taylor has studied the shortening occurring after hip-joint disease, and reaches, rather against his pre-conceptions, the following conclusions: 1. Considerable retardation of growth both in length and thickness of the limbs is the rule after coxitis and other affections causing long periods of lameness or disability in childhood. 2. The amount of retardation appears to bear a distinct relation to the amount and duration of retardation or disability. 3. This inhibitory effect of restraint should be considered in selecting the treatment. Other things being equal, locomotion is desirable and restraint for long periods harmful, though it may be necessary as the least of two evils.

11. See abstracts on pp. 401, 402.

12. **Gastro-Enterostomy by the Elastic Ligature.**—This method is by the application of the elastic ligature binding the viscera together and ultimately cutting its way through. The special technique, as given by McGraw, is as follows: 1. The ligature should not be a rubber thread or flat band which lacks the necessary strength to cut a way with certainty through the thick walls of the stomach. The surgeon must use a hard, firm rubber cord at least 2 millimeters in diameter. 2. It must include in one loop all the tissue that it is desirable to sever. The formation of several small connected loops is an error. The larger the amount of tissue included in the loop, the more securely and more certainly will the ligature perform its work. The cord must be drawn as firmly as possible, and be fastened by a silk thread tied around the ends. He has himself first knotted the rubber cord and then fastened it with silk. This first procedure may not be necessary. 3. Before inserting the rubber ligature the viscera should be joined together by a row of Lembert sutures for a distance of six or seven centimeters, and when the ligature has been tied a similar row in front should complete the procedure. The author thinks that if the method should ever fail it would be from its too rapid action. He believes that this method is unequaled in the rapidity of its action, its efficiency and its safety, and reports a few cases in which he performed gastro-enterostomy for carcinoma of the pylorus by this method, and one case in which it was performed for the production of a fistula between the gall-bladder and the small intestine. He does not think that it is best for this latter purpose, owing to the thinness of the gall-bladder walls, but for gastro-enterostomy it is the best adapted operation. The matter was made the subject of his address as chairman of the Section on Surgery and Anatomy, before the AMERICAN MEDICAL ASSOCIATION in 1891, and published in THE JOURNAL of May 16, that year.

13. **Infant Feeding.**—Rotch concludes from experiments made by Drs. White and Ladd, under his supervision, that the addition of cereals to cow's milk for young infants is unnecessary, because better results can be obtained by other methods, and it is irrational since it differs from Nature's methods. In a certain proportion of cases where the cream is mixed with milk, water and lime-water, the emulsion at times appears partly disturbed, and this condition has been held by some to counterindicate the general principle of the percentage feeding. This subject has also been investigated and he does not find that the disturbance of emulsion does any special harm. As regards the management of proteids in infant food, he says that an object to be kept in view in regulating the lactation of the first twelve months of life is, in the early months, to start with a low percentage of proteids and to make the composition of this low proteid in the proportion of two-thirds whey and one-third caseinogen. As the infant grows older we should not only increase the proteids so that in the latter part of the year it can take the high total proteids of undiluted cow's milk, but also that the proportion of whey proteid to caseinogen should, as the total proteid becomes higher, be gradually changed from two-thirds whey to the one-sixth contained in the total proteid of cow's milk. He gives a table of prescriptions that it is possible to follow in the milk laboratory, and he believes that it is perfectly possible with the good milk supply, such as comes from the laboratory farm, to prescribe a percentage mixture which will retain its emulsion except under extraordinary circumstances of transit and heat. It need not be Pasteurized excepting for long distances in hot weather, and will not need to have cereals added for their mechanical action. He thinks that a centrifugal cream no more disturbs an emulsion than a gravity cream, and therefore is preferable as about one-half a day fresher.

14. **Bacteremia and Indications for Hysterectomy.**—Boldt objects to the ordinary terms septicemia and pyemia, and after discussing the definitions given by various authorities, suggests the following: Septicemia—or acute bacteremia—is a blood disease caused by parasitic micro-organisms invading the circulatory system or some primary seat of infection. Usually the infection multiplies so rapidly in the blood as to usually carry the patient off in about five days. The germ is usually staphylococcus pyogenes, but other forms may also occur. Pyemia—chronic bacteremia—is an infection of the system by streptococcus pyogenes, alone or with other pathogenic germs.

beginning from an infected thrombus. They are not diffused into the system in one large quantity, nor do they possess the same extreme virulence as in the acute type from a clinical point of view. The production of the abscesses found in the condition called pyemia, on which depends the pathologic differences between the acute and chronic, is due to the organism finding a resting place outside the circulation and there giving rise to abscess. He would therefore call septicemia, acute bacteremia; and pyemia, chronic bacteremia. In the second part of his paper he discusses the indications for hysterectomy, and sums them up as follows: If, after a full-term delivery or an abortion, there are no conception products in the uterus, and the patient has fever with exacerbations, chills, and a small and frequent pulse—120 to 140 or more—if careful observation should show that the infection comes *from the uterus alone*, that organ being enlarged, and relaxed in its consistency, if there is no evidence of peritonitis, the parametria being free, if streptococci are found in the uterus, and, especially, if the blood shows the presence of pathogenic germs, as in Prochownick's patients; if there are decomposition products in the uterus, as in the instances reported by Schultze, Sippel, Prochownick, Stahl, and others, which can not be removed satisfactorily *per vaginam;* if, on doing a Cesarean section, the uterus is found septic, then an abdominal hysterectomy is indicated. Abdominal section with drainage is indicated in diffuse septic peritonitis when there is no evidence of an exudate in the pelvis. The annexa are to be left undisturbed unless there is some positive indication to do otherwise.

15. **Blood Poisoning.**—Harvey calls attention to the effect of arsenic in large doses, and the difference when given in small quantities, the susceptibility of some persons to mercury, bromids, iodids, and the dangers from the prolonged use of full doses of strychnin or quinin.

16.—See abstract in THE JOURNAL of February 2, p. 343.

18. **Babinski Reflex.**—According to Prince, there appear to be two reflexes comprised under this head, one spinal and the other cerebral, the latter being an extension movement which he considers automatic, as in dodging the head before an expected blow. They may be inhibited largely through the will, though not always. With proper precautions to inhibit cerebral reflexes, extension of the great toe never occurs in health. Extension of some of the other toes may occur, but in some of these cases, at least, it is also a cerebral reflex. The significance, then, of the Babinski phenomenon consists in extension of the great toe, and he thinks the best term for it would be "the great toe phenomenon," (like knee-jerk, etc.) It does not follow, however, that extension of other toes may not be of pathologic importance. He has observed them in certain cases, such as meningeal hemorrhage, and in some obscure ones of cerebral disease. He thinks this recognition of the cerebral element is of practical importance in interpreting the pathologic signification of extension.

20. **Vesical Implantation.**—The case reported by Reynolds is explained in detail. He thinks that the Dudley operation entirely obliterates the danger of slipping away of the ureter from the bladder, and the presence of forceps must at the same time direct the stream of urine into the bladder; in this case it produced no discomfort. The result was remarkably successful. Aside from the high position of the new urethral opening it could hardly be distinguished from the corresponding one on the unoperated side.

21. **Pregnancy After Ovariotomy.**—The case reported by Morris seems to have been one of complete removal of the ovaries and tubes, and yet pregnancy followed. It is suggested that there must have been a supernumerary ovary in this case, and possibly another ostium between the uterus and the ligature of the tubes.

22. **Lakewood (N. J.) as a Winter Resort.**—Schauffler finds that the advantages of Lakewood are due to two factors: 1. The comparative mildness of the temperature and its phenomenal dryness. He thinks it specially beneficial for asthma, bronchitis, laryngitis, and also in the first stages of tuberculosis. It is also a good locality for convalescents from acute diseases. The soil, location, etc., are, he thinks, particularly good for a northern climate. The average humidity is low and there is no appreciable moisture in the air for any considerable portion of the time.

23. **Climatic Treatment of Bright's Disease.**—The authors find the highest mortality from Bright's disease is in the middle Atlantic Coast region, the next the North Atlantic, next the northeastern hills and plateaus, the South Atlantic Coast region, and, lastly and least, in the Southern Central region. A part of this prevalence in some of these regions is due to other than climatic conditions, urban concentration, etc. The most unfavorable states to those suffering from renal diseases are New Jersey, New York, Massachusetts, New Hampshire and Vermont, and those most favorable are Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas, and certain parts of southern California.

24. **Syphilis at Hot Springs.**—Jelks finds the climatic and social conditions of Hot Springs, especially advantageous to cases of this disease. The advantages are regulation of diet and living, such as favor treatment, the unequalled bathing facilities, drinking of hot water favoring elimination, while the drug treatment may be carried to a much greater extent than in other sections.

25. **Florida.**—After describing the climate, geography, etc., of Florida, Crook gives the following as the classes of cases best suited to be sent to that region: 1. Cases of recurring bronchitis or winter cough. 2. A large and important class of cases, hereditary or otherwise, in which there is reason to fear the development of tuberculosis, though there may be no signs of the disease. 3. The majority of cases of early phthisis prior to cavitation. Patients showing great debility or severe anemia should not be sent to a southern climate, nor those in whom acute manifestations are present. As in other localities, cases where the symptoms are prominent are not welcome everywhere, but he knows of no case where comfortable quarters could not be obtained. 4. Cases of so-called fibrous phthisis or chronic interstitial pneumonia are always benefited. 5. A large class of invalids, rheumatics, victims of subacute or chronic gout, asthmatics, intractable cases of chronic rhinitis, pharyngitis, laryngitis, lumbago, general debility, etc., are usually improved by a season in Florida.

26. **Climatology of Neurasthenia.**—Two extremes should be avoided by neurasthenics, a low, windy, treeless climate, and a high altitude, above 2,000 feet, with quiet atmosphere and low atmospheric pressure. As an illustration of the former condition he mentions Portland, Ore.; of the latter, the higher parts of southern California and New Mexico. Aside from idiosyncrasy, he says the ideal condition consists in sea air in a well-wooded country far enough from the coast to avoid its fogs; a sea voyage is an excellent preliminary to other measures. An altitude of over 2,000 feet, a very stimulating climate, districts visited by high winds and frequent fogs, cloudy saturated atmosphere, with slight movements of the air-currents, a low warm sea-level country, etc., should be avoided.

27.—See abstract in THE JOURNAL, XXXV, p. 1171.

28. **Heart Disease in Children.**—Friedlander first notices the relations of the heart to the chest wall in children as compared with adults, and the position of the apex; the area of absolute dulness is somewhat larger. In this paper he follows much the same general line of reasoning as given in Poynter's article abstracted in last week's JOURNAL, p. 391, describing the symptoms of endocarditis, pericarditis, and myocarditis as they occur in infants and children.

29. **Resinol Dermatitis.**—Reynolds defends resinol against the attack made on it by Heidingsfeld's paper, in THE JOURNAL of January 12, p. 137. He thinks that it is a valuable remedy, and if anything is to be called a specific it is, not only in the surgical use, but in a far more important group of diseases, those of the gastro-intestinal tract, particularly typhoid fever.

35. **Spinal Curvature.**—This paper consists in an analysis of 500 cases, mostly hospital patients, and the great majority

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of them females. The chief causes seem to have been heredity, rachitis, general weakness, bad posture and habits. The most common form was right dorsai and left lumbar convex, over 50 per cent. of the total being of this type. The patients were treated by attention to the general condition, the use of hypophosphites, cod-liver oil, bland iron preparations, straightening of the spinal column by manual pressure, mechanical pressure and various splints such as Barwell's orthopedic apparatus and Volkman's sloping seat, keeping up the improved position by means of a special apparatus devised by the late E. T. Chance, which consists of a metallic splint between the shoulders, having attached to it two straps which pass through the axillæ, bracing back the shoulders, joined to a perpendicular slotted rod which passes downward to a crescent-shaped metal band—pelvic girdle—joined in front by a strap and situated on a level of the crest of the ilium and great trochanter; over the convexity of each curve a plate is accurately adjusted by means of short metal arms which connect the plates to the perpendicular rod. A broad abdominal belt completes the splint. All parts touching the skin are padded and the adjustment is made by wrenches and keys. The splint must be fitted perfectly at the first adjustment, and be altered as improvement progresses, so as to keep up a better position. The patient should be directed to "keep away from the plates," as every time this is done and better position is gained she can not resume the more faulty position. In addition special exercise for weakened muscles—massage, galvanization, etc.—is employed.

38. **Nephritis in Children.**—While drug nephritides are not uncommon in children, the specially important types of the disease are those which follow or accompany acute infectious disorders, scarlet fever, diphtheria, etc. The most dangerous types, of the trouble of this sort, which Gradwohl has seen, are those which occur in scarlet fever where the symptoms of the disease itself are almost *nil*. He calls attention to the necessity of making urine analysis of children's urine passed in the whole twenty-four hours, and calls attention to the fact that the amount of albumin present has nothing to do proportionately with the amount of edema. Hemorrhagic nephritis complicating scarlatina has a better prognosis than those acute types accompanied with pale urine and not much albumin—glomerulonephritis acuta. In diphtheria this complication is even more common than in scarlatina, but we seldom see hemorrhagic nephritis with this disease or edema or uremia. It is rare after measles, sometimes occurs with a hacking cough or nephritis, and may occur after gastro-intestinal disorders and eczema. There is also a nephritis of anemic children in which it is well to examine the urine. The peculiar form is the type that comes and goes, disappearing when the child goes to bed and returning when it gets up and goes about again. Although it is rare that chronic nephritis is seen in children, it occasionally follows the scarlatinal type.

40.—See abstract in THE JOURNAL, XXXV, p. 1050.

45. **Cutaneous Epitheliomas.**—Pusey reports cases of cutaneous epithelioma treated by caustics, with good success in all eleven. He calls attention to the fact that epithelioma of the skin, especially the superficial type, is often slow in progress and has little tendency to metastasis. The cases usually come to the dermatologist in the early stages, hence the favorable results. His method was to first curette and then use a caustic, pyrogallic acid: in all cases working under cocain. He thinks, however, that pyrogallic acid is less safe than a caustic, which more surely destroys diseased tissue. He has lately used the saturated solution of chlorid of zinc with most satisfactory results. This method of curetting and the use of caustics acts better than the knife, as it is not necessary to cut out into the healthy tissue. The cosmetic effect is also better.

47.—See abstract in THE JOURNAL, XXXIV, p. 51.

48. **Malaria.**—Well's article is a brief but thorough statement of the present state of our knowledge in regard to malaria.

49. **Pernicious Malaria.**—The casual factors, the estivo-autumnal parasite, the pathogenesis of pernicious symptoms, the secondary elements in the determination of perniciousness, the symptomatology in detail, the diagnosis and differentiation of the pernicious type of malarial fever are described by Edwards. He recognizes the occurrence of occasional rare instances of the pernicious type from the ordinary tertian parasite, though in most cases it is due to the estivo-autumnal species; it forms, however, only a small proportion of the cases thus caused.

50. **Crescent Form of Malarial Parasite.**—Preble has formerly expressed the opinion that the crescent form of malaria did not occur in Chicago, but has since learned of a few cases. He describes the crescent parasite and mentions their diagnostic significance. They are not always readily found, and sometimes repeated examinations are required. In a few cases he has been able to find them after a small dose of quinin, when the blood had been repeatedly examined before without their detection. As long as they are found the patient is in danger to others and should be carefully protected against mosquitoes for fear of contagion.

51. **Treatment of Malaria.**—The first point insisted on by Favill is a positive diagnosis before any treatment is attempted. The fact that other diseases recover under quinin, besides malaria, adds another possibility of misinterpretation. Assuming that we have made a correct diagnosis to determine the type, the treatment is comparatively simple with the ordinary forms; with the estivo-autumnal fevers, however, we have many difficulties. They are very baffling and irregular in their course, but there is no doubt that quinin is also a direct antagonist to these as to other types. What we are to do with these cases that do not yield, is difficult to say. The authorities state that 15 to 30 gr. a day is sufficient for any case of malaria, but we know that there are many where it is not effective and others where it would be too much, and the question arises whether or not we should be heroic in the use of the remedy. Some practitioners say that enormous doses of quinin are not absorbed. If we could be sure of this there would be some comfort. There is some reason to suppose that large quantities are absorbed, but yet ineffective. Favill believes that the hypodermic administration of the drug is possible, though there are objections to it. The danger of local necrosis is great, and he thinks that after all there may be some associated or consequent toxemia in these resistant cases that quinin does not touch. We can not tell, however, whether we are dealing with a continuous infection or the indirect results of infection. Our therapeutists blunder along and we give quinin because we have nothing else to do. What are the terminal aspects of malarial infection? For the most part the lesions are in the nervous system, but when there is a deterioration of blood its rejuvenation becomes an important question in the cases after infection has once been subdued. As regards the administration of quinin, he thinks that much will depend on the characteristics of the case. The question can not be decided off hand. The drug must be administered according to the necessities and possibilities of the case. The point is to get quinin into the blood in sufficient quantities, and this leads to the statement that there is no such a thing as a regular dose of quinin: a dose is that which will produce the desired effect.

52. **Medullary Anesthesia.**—According to Weber, our aim at the present time is to define the scope and limitations of medullary anesthesia. We can use the method in all gynecologic and obstetric operations, all genito-urinary and intra-abdominal and groin operations, such as hernia, bubos, etc.; all operations of scraping, manipulation, etc., of the abdominal wall, and operations on the lower extremities. He advises against its use in children, partly because of the mental effect of the method and because they take anesthesia so easily. In old age, however, it would be of great value, as aged people, as a rule, bear general anesthesia badly. Men bear the method better than women. The psychologic effect is less. In emergency or accident surgery it is of great value, also in military

or country practice. Operations can be done in the office under this method such as operations for bubo, varicocele, etc. For surgical practice amongst the poor it is valuable, and the non-necessity of a skilled assistant makes it an important gain. Patients suffering from emphysema, chronic bronchitis, pulmonary tuberculosis, fat people, old people, alcoholics, those suffering from chronic nephritis, atheromatous arteries, myocarditis are dangerous risks for chloroform or ether and medullary anesthesia will here come most into play. As regards its dangers, he says we will have no deaths if we do not overdose. The direct toxic effects are mentioned as slight. The other possible cause for death is sepsis, and this can be guarded against. There are some disagreeable effects connected with it, such as vomiting, headache, etc., but they are not dangerous.

60.—See abstract on p. 401.

61. **Specific Lesions of Rabies.**—Spiller holds that the so-called specific lesions of rabies are of diagnostic value, but are not absolutely confined to this disease. From his own experience he thinks that many of these lesions are simply due to irritation or intoxication and it is not necessarily rabid.

62. **Experimental Pancreatitis.**—Flexner, in a previous study, found that the secretion of the pancreas may enter the peritoneal cavity without setting up diffuse inflammation, a conclusion previously arrived at by Senn, and in a certain number of instances the free, sterile pancreas or pancreatic secretion may cause local fat-necrosis. The element of infection plays an insignificant if not altogether unessential part. In the peritoneal fat-necrosis the fat-splitting ferment is demonstrable at certain stages of the peritoneal process. It is present in the greatest amount in the early stages, and may disappear later. Although it can not be confirmed that steapsin is the direct cause of necrosis of the tissue, this is rendered highly probable by its constant occurrence in disease areas, its absence from the healthy fat, and the nature of the pathologic changes. The escape of the pancreatic secretion into the peri- and para-pancreatic tissues is the origin of the necrosis, and this escape is facilitated not only by lesions of the pancreas itself but also by obstruction of its circulation. This may be brought about by injuries of the pancreas, and ligation of the ducts, as well as by the production of passive congestion. He has since made, and here reports, a series of experiments by injections of acids, alkalies, bacilli, etc., into the pancreas of dogs with chemical and microscopic examinations. The results reached are that hemorrhage per se is common in all forms of the pancreatitis, but when excessive, dominates the process. It is usually more pronounced than the inflammatory lesions, and the two conditions may be separate and distinct in the same organism or different parts of the organism. The necrosis is due to perversion of pancreatic secretion, and the direct result of the action of the fat-splitting ferment. The hemorrhage does not commonly occur independently of inflammation, and one of the lesions is disintegration of pancreatic tissue. If we recall the tendency of the pancreatic secretion to act with the pancreas, it follows that these injured foci might better become the starting-point of another form of degeneration leading to necrosis of the glands and reactive inflammation; that this dead tissue might also form a favorable point of location and multiplication of micro-organisms whose presence would still further complicate the condition.

63. **Kalagua.**—Kalagua is a Japanese plant transplanted to South America, which has been reported a specific for tuberculosis, and reports have been made by Stubbert and others and certain claims as to its influence recorded. Bergey reports the results of experiments made on guinea-pigs and rabbits, in tabulated form, some of the animals being inoculated with tubercle bacilli, and others not. In none of the experiments was there any positive evidence of a beneficial specific influence of kalagua. If it is really, as claimed, a specific for the disease, it is most probable that some evidence of its action would be apparent in these experiments, but no effect traceable to the drug was observed.

64.—See abstract in THE JOURNAL, XXXV, p. 1105.

77.—See abstract in THE JOURNAL, XXXIV, p. 1335.

78. **Eye-Strain and Digestive Disorders.**—Benedict's views in regard to the relation of eye-strain to digestive disturbances are rather conservative. He points out that statistics as to the frequency of this relation are not practicable, and that the correction of digestive disorders by glasses is sometimes ineffective, though there is no doubt but that eye-strain in certain conditions may react in pneumogastric reflexes. True pneumogastric reflexes, nausea, etc., are not caused by any sensory disturbance other than those of sight and equilibrium, excepting either change of temperature or psychic translation. He tries to explain the psychic processes by which nausea is thus excited tentatively, the stomach by virtue of its contents and the liver by virtue of its own inertia—and the fact that it is the only body that changes in its inertia can readily be appreciated—are admirably adapted to transmit sensations of equilibrium. Other afferent measures which they transmit to conscious centers must be by the pneumogastric nerve and the overstimulation of the function of a nerve of manifold functions is apt to be associated with sensations apparently representing the nerve in other functions. He is skeptical as to the equilibrium function of the semicircular canals.

79. **Membranous Colitis.**—Robison describes the symptoms and pathology of membranous colitis, which he divides into two classes. 1, those due to enteroptosis, lack of digestive ferment and intestinal calculi. 2, those due to dyspepsia, traumatisms, and grave cachectic diseases, septic and infectious conditions and carcinoma. The prognosis must be guarded, though the mortality is low. The treatment depends on the character of the conditions; enteroptosis, dyspepsia, etc. Only surgery can relieve deformities of the internal viscera. Intestinal antisepsis by free colonic flushing and by the mouth gives relief. The diet should be ample, varied and digestible. In all cases it is well to exclude rich soups, gravies, etc. Hygienic dress, an abdominal bandage, exercise, change of scene, attention to renal insufficiency, flushing of the bowels are all mentioned as of advantage. He has had benefit from a solution of methylene blue, 1 grain per quart by rectal injection given high. Medicinal treatment is confined to intestinal antiseptics, the best of which he thinks are bismuth salicylate, salol, betanaphthol, thymol, benzoic acid, menthol, guaiacol carbonate and creosote. It is necessarily symptomatic and should be varied to suit each individual case.

82. **Hysterical Alopecia of Eyelids.**—Under this name Gifford describes cases in which the eyelashes were pulled out by hysterical girls, thus simulating a diseased condition.

86. **Congenital Pyloric Stenosis.**—Southworth reports a case in a child, which lasted for nine days after birth, and in view of the complete cessation of vomiting at this time, he is inclined to think the condition more functional and spasmodic than otherwise. There was no palpable tumor nor dilatation of the stomach.

87. **Retropharyngeal Abscess.**—Three cases of retropharyngeal abscess in infants are reported by Snow, who discusses the diagnosis of the condition. He thinks the failure to recognize the abscess in babies arises from the hesitancy to hurt the child by digital examination of the throat, and insists on the importance of this measure. The condition is such that everything possible should be done to relieve it. The symptoms are usually misunderstood, and hence may not guide us to a correct conclusion.

89. **Scurvy in Cuba.**—Duenas has not found any cases of scurvy described in Cuban literature since 1889, but reports personal observations of his own. He calls particular attention to the connection of anemia with scurvy, and asks whether we should consider it as a special clinical form of progressive anemia? He thinks that alteration of the blood is the first pathogenic link of all manifestations to follow. Further observation would be required to establish the relations of scurvy with progressive anemia, but he wishes to call the attention of his colleagues to this aspect of the subject, and intends to study it further.

92. **Colon Bacillus.**—Four cases are reported by Bierring, presenting local peritonitis from gall-stones and gall-bladder

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perforation, abscess of the liver, and septic appendicitis, in all of which were found pure cultures of the colon bacillus. Bierring concludes that this bacillus bears the same relation to the intestine that pyogenic cocci bear to the surface of the skin and the upper portion of the digestive and respiratory tracts. Each form, in its natural habitat, is harmless, their pathologic activities corrected by the physiologic resistance of tissue but when this is lessened they become capable of producing disastrous consequences.

93.—See abstract in THE JOURNAL of January 12, p. 126.

101. **Oxygen Treatment of Uricacidemia.**—After alluding to the former articles, in which he demonstrated the fact that uric acid is not the cause of uratic dyscrasia, etc., Croftan suggests that it will depend on the activity of the oxygenation processes whether uric acid, a non-toxic substance, is formed, or whether with deficient oxygenation, poisonous alloxuric bases are formed instead. The oxygenating processes in the human organism occur in two places, in the blood and in the periphery of all tissue cells. In one case oxygenation is derived from inspired air, and in order to cause oxygenation in the blood we can increase the proportion of oxygen in the air and promote its absorption, increase the quantity and activity of the red blood-corpuscles and the hemoglobin in the individual cells. To increase oxygenation at the cell periphery we can only act by raising the functional tone and the activity of all the organs. The author describes his method of giving oxygen inhalations, which he claims have the best results, educating as it were the perverted tissue-taint back to normal and possibly effecting a cure. Continued for a sufficient length of time an individual of ordinary chest capacity will get from ten to fifteen inhalations from the ordinary five-gallon bag, each treatment taking about five minutes. The diet is of importance, and in substance the same as that given in an abstract of his paper in last week's JOURNAL, page 349. The drug treatment is essentially the same as that for secondary anemia: bichlorid of mercury in small doses, arsenious acid, and iron. High altitude is bad for these patients. That which is best is a dry, equable, semitropical, sea-level climate, or a very moderate elevation, with a large proportion of sunshine, such as is obtained in the Italian Riviera, Algiers, the Nile, and southern California.

102. **Uric Acid Diathesis.**—Tyson says the uric acid diathesis is remediable in two ways: 1. By eliminating the ingestion of nitrogenous food. 2. By increasing the quantity of water constituents of urine and by alkalinizing the blood and urine, favoring solution and elimination. Nitrogenous food should be limited. He sees no contraindication to the use of carbohydrates and hydrocarbons in these cases, provided they can be digested and assimilated and are not productive of acid fermentation. In addition to these foods there should be used, in reason, vegetables and diluent drinks to make up the dietary. He sees no objection to the use of fruits which are not too acid, such as oranges, grapes, peaches, pears, apples, etc., prohibiting acid fruits like strawberries, and especially if the fruit is difficult of digestion. Exercise, baths and massage should also form a part of the treatment. He also believes in the use of the alkalies, and uses chiefly the salicylates, citrates, and bicarbonates. His experience goes to show that the salicylates are the best. Piperazin has a disputed value, and while he does not speak of it strongly, from his own experience he has found it of value in the treatment of uric acid sediments. His point of view, as will be seen, is different from that of Croftan.

103. **Bathing in Typhoid Fever.**—Baruch offers the following method of home bathing in typhoid: Strip the patient and roll him upon his right side. The nurse, standing on the left of the bed, spreads a blanket over its left half and covers it with a linen sheet or old tablecloth. The patient is now rolled toward the left, upon his abdomen; the lower extremities are covered with a blanket. A basin of water at 80 degrees having been prepared, the nurse dips a rough wash-cloth into it, squeezes it lightly, and passes it, with some pressure, rapidly to and fro over the lumbar region. The cloth is again and again dipped and passed over the same part until it feels cool; other parts of the back, buttocks and thighs are similarly treated. Any water that may have flowed upon the blanket is now mopped up with a sponge. The whole back is now gently dried with a soft linen towel; the patient is turned over and the anterior part of the body is similarly treated. Chilling must be avoided by rapid using of good friction during the ablution; it will then not be necessary to apply it afterward. If the patient becomes chilly, the applications must cease, though this must not be taken as a demand for warmer water, but as an indication that too much water was used or it was applied too long. In two or three hours, if the temperature has reached 102.5 F., the ablution must be repeated with water 5 degrees colder, and applied with more friction. Thus the water temperature may be gradually reduced with advantage to 60 F. After the patient has been dried and had his gown replaced, a wet compress is applied over the abdomen, as follows: Cut three folds of old coarse linen to fit the anterior part of the body from the ensiform cartillage to the pubis, and lap over well on each side. Wring this out of water at 65 F., so that just enough water remains to saturate the cloth without its dripping. A piece of flannel large enough to pass entirely around the trunk and an inch wider than the linen compress is rolled into a bandage and spread beneath the body. The gown is rolled up under the arms, the wet compress is now applied over the abdomen, and the flannel bag snugly secured over it with three pins. The comfort of the patient and the good effect of the procedure depend on exact technique. The compress is continued hourly until the temperature reaches 100. When it rises to 103, or evidences of nerve depression become more pronounced, some stimulating procedure is required. The towel bath is an excellent measure. It is given by putting a dripping towel on the back, the patient lying on his abdomen, and water at 85 degrees dipped up and poured on the upper part of the back. The part is then rubbed by passing the flat hand rapidly over it until it warms, and another cupful is poured on and friction repeated. This is done three times unless the part fails to warm up. The process is carried successively over the entire back, buttocks and thighs, and they are then gently dried. The precautions to act quickly and stop when the patient's teeth chatter or evidence of chilling occurs must be remembered. If the febrile manifestations do not abate, the water temperature may be lowered five degrees each time until the towel water reaches 60 and the cup water 50 degrees. This last temperature will hardly be required unless stupor, delirium, or subsultus are persistent. In the sheet-bath, the entire body is wrapped in a linen sheet taken dripping out of water at 85 F. Colder water is poured from a cup, followed by friction as in the towel-bath. The ice rub is another energetic procedure. Instead of pouring cold water the patient is vigorously rubbed with cold pieces of ice held securely within a piece of white linen. Each part is thoroughly rubbed afterward with the flat hand, until it thoroughly warms up. Internally, four to six ounces of water at 40 F. should be given regularly every two hours, alternating with the same quantity of milk or other liquid food. The systematic drinking of cold water is an essential element in the hydrotherapy of typhoid fever.

112.—See abstract in THE JOURNAL of January 19, p. 205.

113. **Quinin in Labor.**—Fussell finds that the administration of quinin is a valuable stimulant in cases of uterine inertia, especially in cases of multiparæ. He thinks its employment will frequently obviate the use of forceps. He gives about 15 or 16 gr. at a dose.

114. See abstract in THE JOURNAL, XXXV, p. 1361.

FOREIGN.

The Lancet, January 19.

Some Cases of Head-Injury, Including One in Which There Was Lesion of the Occipital Bone. HERBERT W. PAGE.—The author details several cases of injuries to the head which present certain points of interest, more especially the visual symptoms in one case which showed hemianopsia with irregularity of the field, following an injury to the occipital

bone with depression and removal of portions of the brain. The other cases were more ordinary. He particularly notices the occurrence of unconsciousness, especially when prolonged, and does not hold that it is in itself an evil omen. He quotes Sir James Paget, who said, in a verbal communication, that all things being equal, a certain amount of unconsciousness by giving rest to the shaken brain, aids sometimes to recovery, the condition of unconsciousness to the patient acting to some extent as the splint to an injured limb. Page remarks that he has taken something of the same view of the case himself, and does not consider that those in whom the loss of consciousness has been most prolonged are necessarily those in whom the prognosis is the most serious.

Ten Successful Cases of Cesarean Section. W. J. SINCLAIR.—The author gives detailed accounts of ten cases of Cesarean section, with general remarks on the subject. The time of the operation is a matter in which there is a great difference of opinion, but, as he says, in the majority of cases there is very little choice. We do not now, as in former days, use it as a last resort. In all cases incision of the uterus was postponed until it could be drawn forward out of the abdominal wound, and it is always best to insert an elastic tube so as to compress the uterine vessels in cases of emergency. It does not necessarily require any very large abdominal incision for, in the majority of cases, after rupture of the membranes, the volume of the uterus is not so great and the advantages of cleanliness and precision in the operation, by drawing up the uterus, are beyond question. The objection to elastic ligation has no basis. If the deep sutures are inserted as quickly as possible, tied tightly and the tube relaxed, hemorrhage is slight and the organ gradually assumes its natural color. If by the time the sutures are inserted and tied it looks bulky, it can usually be made to contract by manipulation, not directly with the hands, but through a suitable cloth. The size of the incision into the uterus should be sufficient to permit rapid extraction of the fetus without further laceration, and a one-half inch incision is a small matter as compared to the accident of tearing the uterine substance. Sinclair rejects the German method of incising the fundus, which he thinks in any case should be left free. When it is made in the most obvious position, the middle third in front and in the median line, it sinks down and comes in contact and adheres to the abdominal wound. A month or six weeks later the uterus is found exactly where it would be after a successful ventrofixation operation. Symphysiotomy, he believes, is dying out and getting to be obsolete, which he thinks is the better for humanity. As regards premature labor, it would be just as well to perform craniotomy as to wait until the twenty-eighth or thirtieth week when a viable child can not pass. If we look at the indications for Cesarean section, and compare them with those for the induction of premature labor, one can not fail to be impressed with the shortening of the one and the extension of the other.

Medical Press and Circular (London), December 19, 1900.

Extirpation of the Gasserian Ganglion.—Prof. Julius Dollinger reports his experience with the Hartley-Krause operation. The point especially made by him is the avoidance of the middle meningeal artery. By examining a large number of skulls he concludes that in 59 per cent. of the cases the place of entrance of the middle meningeal artery lies so far behind the foramen ovale that one can approach it without requiring the ligature and subsequent division of the artery. In 35 per cent. we can also remove the ganglion without ligating the artery, but to do so we must get at the ganglion, going behind in a median direction. The second root leaves the skull further forward: it is therefore accessible without ligature of the artery. He also concludes that in about 96 per cent. of cases the Gasserian ganglion can be removed without ligating and injuring the arteries, and he has thus performed the operation in five cases. The method employed is given as follows: "After opening the skull and bending back the bone flap, I introduce a finger between the dura mater and the base of the skull until I reach the middle meningeal artery. Before this I turned to the second and third division of the trigeminus and peeled off the dura mater with an elevator with a blunt point. On the way I introduced the elevator from outward and medianward to upward and backward. I could separate the Gasserian ganglion very easily, partly from the base of the skull and partly from the dura. In the same direction I reached the ganglion with forceps, and seizing it, I drew it out, together with the trigeminus root (having, of course, previously cut across the two divisions of the trigeminus mentioned above). I did not use the Krause spatula when lifting the brain, having only made use of this spatula in the first two cases performed according to the old method. Now I avoid its use, because the assistant who holds it can not see into the aperture leading to the base of the skull, and therefore he lifts the brain either too high or too low, to avoid which I have continually to guide his hand. For that reason I lift the brain myself with an elevator which is 1½ cm. wide, and is slightly bent on its flat side; I hold this in the left hand in such a way that I can perform the operation by the aid of light projected by an electric reflector." Following this plan considerably shortens the operation. The second operation which he performed lasted only twenty minutes and the average duration of the other three was thirty-eight minutes. The conclusions which he gives from a summing up of his experience are: "1. The Gasserian ganglion can be extirpated without ligature of the middle meningeal artery. This is proved by my five cases. The operation is thereby much shortened, and the complications arising from the ligature are obviated. 2. The anterior division of the artery in half the cases lies in the closed canal of the parietal bone more frequently than in the open sinus, but even then hemorrhage does not in every case occur on turning down the bone flap. 3. With regard to these rare cases of bleeding, we need not previously cut down on the external carotid artery, because, should hemorrhage occur while compressing the common carotid artery we have plenty of time to plug the foramen spinosum, or, when necessary, to ligature the external carotid artery."

Archives Gen. de Med. (Paris), October, November and December, 1900.

Endocranial Complications of Sphenoidal Sinusitis. TOUBERT.—The sphenoidal sinus is more frequently involved in case of nasopharyngeal infections than is generally appreciated, especially in the course of la grippe, pneumonia, erysipelas and typhoid fever. The sinusitis may then become complicated by fatal meningitis or phlebitis, and it is probable that a certain number of instances of meningitis, supposed to be spontaneous, are probably in fact complications of an ignored sinusitis. Diagnosis of sphenoidal sinusitis is very difficult on account of the variability and lack of precision of the symptoms, both subjective and objective. Exploration of the cavity of the sinus with a catheter or by puncture seems the best means of diagnosis. The endocranial complications are readily diagnosed, but they do not indicate the source whence infection was derived. Jacob's method of inserting the catheter is simple, the point is guided by the bones, after entering the nostril, following the natural curve formed by the deep surface of the bones of the nose, the cribriform plate of the ethmoid and the anterior surface of the sphenoid—the vault of the nasal fossa. When the convex side of the catheter strikes the posterior angle of the vault at the spheno-ethmoidal articulation, if the catheter is twisted slightly outward, it can be easily pushed into the sinus.

Sensory Disturbances with Cerebral Lesions. H. VERGER.—More than 140 pages are devoted to the study of the general disturbances in sensibility consecutive to lesions of the cerebral hemispheres in man. Verger's conclusions are that general sensibility is not localized exclusively in the cortex. The terminal ramifications of the nerve-cells establish multiple relations between the inferior and cortical centers, which render possible new associations and the re-education of the cells. Twenty-four cases are described in detail, showing this substitution.

Pathogenesis of Cirrhosis of Liver with Cardiac Insufficiency. PIERY.—The influence of stasis in the production of sclerosis of the liver has been investigated by Piery on twenty-

four patients, with post-mortem and microscopic findings and experimental researches. He states that he has established that sclerosis of the liver, in case of weakness of the heart, is not a direct consequence of the stasis, and also that the latter alone is unable to produce sclerosis of the liver. The stasis, however, acts as a predisposing cause by the dilatation of the vessels and atrophy of the trabeculæ which it induces. This offers a favorable soil for the development of intoxications, especially alcoholism, and infections, such as tuberculosis and rheumatism. The resulting inflammation is the direct cause of the sclerosis. He describes his cases in full, 15 of what he calls "cardiac cirrhosis," and 9 of protracted asystolia with no sclerosis of the liver.

Bulletin Medical (Paris), January 5.

Simple Test of Isotonicity of Cerebrospinal Fluid. L. BARD.—Cryoscopy and other means of determining the isotonicity of the cerebrospinal fluid are, comparatively speaking, difficult and tedious measures. Bard finds that the same purpose is accomplished by mixing one drop each of the fluid and the blood of the subject. If the cerebrospinal fluid is hypertonic the red corpuscles remain intact, without even sticking together in rolls. The mixture looks like a combination of ordinary blood and artificial serum. If the cerebrospinal fluid is hypotonic, the blood mixed with it changes its character at once, the color becomes a uniform bright red and the microscope shows that the red corpuscles are dissolved.

Revue de Gynecologie (Paris), December.

Results of Surgical Treatment of Carcinoma of the Ovaries. E. ESTOR and P. PUECH.—The mortality in 372 collected cases of cancer of the ovary was 26 per cent. from 1880 till 1890, and 21 per cent. during the last ten years; 265 were cured and 107 died, two-thirds from hemorrhage or shock. The general mortality in case of sarcoma and endothelioma was 17.3 per cent.; from carcinoma, 25.9 per cent., and from teratoma 15 per cent.; in those not confirmed by the microscope: sarcoma, 26.3 per cent., and carcinoma, 40.6 per cent. The deaths from carcinoma of the ovary are 8.1 times greater than those from sarcoma. The cases in which there were many adhesions had a mortality of 34.4 per cent.; carcinoma was complicated in this way in 76 per cent., and sarcoma in 66 per cent. When the operation required the sacrifice of some portion of an adjoining organ, the mortality was as follows: Uterus 1 in 8, intestines 3 in 4, and omentum 1 in 4. The cases show that recovery is possible at any age. Among the patients cured was a child of 20 months, and a woman of 67. The remote results of the operation were observed in 176 cases. Recurrence occurred in 59 per cent. In 49 patients, within three months; in 36, in less than a year; in 11, between 1 and three years; in 4, over 3 years, and in 4 the date was unknown. Of the 72 patients without recurrence, 28 were followed for more than 3 years; 16 between 1 and 3 years; 22 between 3 and 12 months, and 6 less than 3 months. This gives a proportion of 15 per cent. who have survived more than three years without recurrence. Among these 1 patient has been observed for 17 years, 1 for 16, 2 for 15, 4 for 12, 2 for 11, 1 for 9, 2 for 8, 2 for 7, 2 for 6, and 1 for 5 years. All those observed for more than eleven years were cases of sarcoma. Of the 54 with carcinoma confirmed by the microscope, recurrence occurred in 22, or 40 per cent.; in 111 cases of sarcoma, in 20, or 18 per cent., and in 6 cases of teratoma in 4, or 66 per cent. In 128 neoplasms not examined microscopically, recurrence was noted in 43, or 33 per cent. of those clinically diagnosed as carcinoma, and in 15 or 20 per cent. of 72 diagnosed as sarcomata. The proportion of cases of recurrence of carcinoma in the 89 cases followed was 73 per cent.; in the 83 cases of sarcomata, it was 32, or 42 per cent., and in the 4 of teratoma, 100 per cent. The tables show that early recurrence was more frequent with sarcoma than with carcinoma. No sarcoma recurred after three years had elapsed, while in carcinoma this happened in 4 cases. The report also emphasizes the greater frequency of survival without recurrence in sarcoma. Ricard gives the mortality after abdominal hysterectomy for carcinoma of the uterus as 23 per cent., and Delagenière as 15 per cent. The general mortality after operation for cancer of the ovary was only 21.3 per cent. in the cases collected above.

Drainage of Uterus in Treatment of Salpingitis. M. BEAUSSENAT.—Walton's method of forcible dilation of the uterus, followed by curetting and prolonged drainage with a stiff rubber tube, has been applied by the writer in twenty cases of salpingitis consecutive to endometritis. The catarrhal form was always cured. This result was also frequently obtained in non-cystic, purulent salpingitis. Old and painful parenchymatous salpingitis was much improved in nearly every case. Peri-uterine infiltration may be absorbed after dilation, curetting and drainage of the uterus. The same treatment is also indicated for pyosalpinx if it is unilateral, recent, small, and has not caused many inflammatory symptoms, especially if operated on in the intervals between attacks of inflammation. The drainage is kept up from 10 to 22 days, changing the tube every second day, when the uterine cavity is irrigated with sublimate solution, swabbed out with 33 per cent. creosoted glycerin, and the vagina loosely tamponned.

Semaine Medicale (Paris), January 9.

Yeast in the Alimentary Canal. P. NOBÉCOURT.—Brewer's yeast is being used in the treatment of furunculosis and other affections, but its action on microbes has never been thoroughly studied. Nobécourt has instituted researches in this line and finds that yeast fungi are extremely resistant to the factors to which they are exposed in the alimentary canal. The gastric juice alone is able to kill them after several hours' contact. They require a fermentable substance for a culture-medium in the alimentary canal. The possibility of the fermentation of glucose in this canal under the influence of yeast was also established. The vitality of the fungi was not impaired by contact with microbes, but the latter were affected by the fungi. The bacillus coli, proteus, pyocyaneus, typhoid and cholera vibrio, cultivated with the fungi, developed normally in contact with them, but when the fungus cultures were from two to six days old, these microbes grew very little or not at all. After this age, the cultures did not inhibit the growth of the micro-organisms. The effects in all cases varied slightly with the special fungus. Brewer's yeast diminishes the vitality of the typhoid bacillus. As the yeast fungi grow they impart acidity to the medium and maintain this acidity like a vital process. It may be directly injurious under certain conditions, and cases are cited where this acidity or the presence of fungi was a factor in the pathogenesis of certain affections of the alimentary canal, but he considers these exceptional cases, which should not prevent the therapeutic application of yeast. There is still much to be done, however, in establishing the indications.

Potassium Iodid Injection in Treatment of Eclampsia.—BOLLE.—The disease analogous to puerperal eclampsia, which affects cows, is frequently fatal. A Danish veterinarian conceived the idea that the affection was due to toxins generated in the milk, and treated it by injecting potassium iodid into the mammary glands. Of 412 cows thus treated, 90 per cent. recovered, while the mortality had previously ranged from 40 to 66 per cent. Bolle has applied the same treatment to 15 patients with puerperal eclampsia, injecting 5 to 6 gm. of potassium iodid into the mamma or vicinity. All recovered except one in whom the treatment was not commenced until after the fifth paroxysm, with pronounced icterus and paralysis. The effect of the iodid is not evident for six hours, consequently it should be applied at an early stage, and possibly as a harmless preventive measure at the first suggestion of eclamptic symptoms.

Improvement in Celluloid Casts. HERSING.—When celluloid is softened in acetone, as usual, it requires several hours to harden. Hersing has discovered that if the strips of celluloid are dipped in hot alcohol they become so soft in two or three minutes that they can be applied at once, while in fifteen minutes they are as stiff again as before they were immersed in the alcohol. He uses strips of celluloid 5mm. thick and nearly four feet long by several inches wide for immobilization of cases of hip joint disease. The cast is so elastic that it can be removed and replaced intact.

Allg. Med. Cent. Ztg. (Berlin), December 22.

Bone Necrosis in Rubber Factories. LAZARUS.—Twenty young women employed in the manufacture of rubber goods, exhibited a necrotic process in the jaws and teeth, similar to that observed in match factories. Lazarus calls this condition "rubber necrosis."

Berliner Klin. Wochenschrift, December 31.

Experimental Alopecia from Thallium Acetate. A. BUSCHKE.—It has been noticed that the administration of thallium acetate to consumptives for night-sweats, has caused the hair to fall out. Buschke has confirmed this curious property of this substance by experiments on animals. The hair dropped off in patches or generally. He considers this phenomenon due to a neurotrophic influence of the drug, which also explains its action on night-sweats.

A Vascular Spinal Affection. F. BRASCH.—In a severe case of nervous spinal disease which terminated fatally in two years, the causal lesion proved to be a dilatation, lengthening and winding course of a trunk vessel in the spinal cord, below the roots of the fifth dorsal nerve. It divided in the lumbar region, pursued a tortuous course, and was so enormously dilated that it assumed an aneurysmatic character. Hypertrophy of the heart was probably the primary factor.

Deutsche Med. Wochenschrift (Leipsic), January 17.

Vaginal Route in Operating for Tubercular Peritonitis. G. BAUMGART.—The details of the 36 cases mentioned in the preceding issue are published in this communication. Of the 24 operated on more than two years ago, 17 were treated by abdominal section, with 64.7 per cent. complete recovery; 5.8 per cent. improvement and 29.4 per cent. mortality. The percentage of recoveries and improvements was practically the same in the seven cases in which the peritoneal cavity was entered through the posterior vaginal fornix, and Baumgart urges the superior advantages of the latter procedure in the treatment of tubercular peritonitis. He calls attention to the important information to be derived from rectal palpation, not only for diagnosis, but in the supervision of the process of recovery.

Tests of Renal Function. L. LIPMAN-WULF.—The methylene blue test of the function of the kidneys produced widely different results in the experimental researches here reported. The only point that seems to be definitely established by them is that the stain is excreted through the epithelium of the convoluted tubules and Henle's loops, before it reaches the urine proper. None was ever found in the Malpighian corpuscles.

New Sensitive Test for Sugar. E. RIEGER.—One gram of pure white phenyl-hydrazin hydrochlorate is placed in a shallow porcelain dish about 3 cm. in diameter. To this 5 gm. of sodium acetate are added and 1 c.c. of the sugar solution or urine. The dish is held over a spirit lamp until the contents are dissolved and begin to boil. It is then replaced on the table and 20 to 30 drops of a 10 per cent. solution of soda are added without moving the dish. The fluid turns a reddish-violet if there is sugar present, if there is no sugar the fluid merely shows a pinkish tint in the course of fifteen to thirty minutes. The red-violet stain must appear in less than a minute to denote a pathologic amount of sugar. The only precaution to be taken is to see that no other aldehyds are present, as they produce the same reaction as sugar.

Therapie der Gegenwart (Berlin), January.

Quinin Treatment of Typhoid Fever. W. ERB.—Quinin proved ineffectual in only one-seventh of the 200 cases of typhoid fever treated by Erb during the last ten years. In all the rest he was impressed with its favorable action, not merely as an antipyretic but in shortening the disease and modifying its manifestations. He commences to give it about the eleventh day, at 7 or 8 p. m., after the maximum temperature has been reached, administering 1 to 1.5 gm.—very rarely 2 gm.—in two doses close together. He continues it every second day thereafter until defervescence. The cases that resisted were all extremely severe, with complications.

Alcohol in Infectious Diseases. C. FRAENKEL.—In a series of experiments on dogs, guinea-pigs, hens, pigeons, etc., conducted by Laitinen, under Fraenkel's directions, it was found that alcohol increased the susceptibility of these animals to infections and toxins. Fraenkel reviews his work and concludes that the administration of alcohol in infectious diseases is, to say the least, not an insignificant matter.

Treatment of Leg Ulcers. C. L. SCHLEICH.—Peptone has completely banished plaster at Schleich's clinic for all cases in which a compressing and immobilizing bandage is required. It requires no padding beneath, can be worn for weeks or months, and, in its adhesiveness, porosity and solubility, surpasses all other substances known to date. He has found it peculiarly adapted to ulcers of the leg, and recommends it as satisfactory in every respect. After cleaning the ulcer, the leg is smeared thick with the peptone paste and cambric bandages applied, winding from the toes upward to the knee, with a starch bandage outside. The paste cools so slowly that it adjusts itself to the surface, and he has never noted any interference with the circulation. The bandage is changed in five or six days.

Wiener Med. Wochenschrift, December 22.

Prevention of Otitis After Measles. S. WEISS.—During a recent extensive epidemic of measles, the number of cases complicated by otitis was reduced from 27.7 to 6.6 per cent. by measures adapted to remove the accumulations of mucus from the nose and to keep the nasal passage clear. The nose was swabbed back to the posterior wall of the pharynx with a 1 per cent. salve of yellow precipitate, or the nostrils were plugged with cotton moistened with a few drops of a 5 per cent. solution of silver nitrate, the patient lying on his back and squeezing the nostrils together for a few moments. This application was repeated four times a day.

Gazetta Degli Osp. (Milan), December 2, 16.

Surgery of the Brain. DURANTE.—One of the two operations to remove a tumor on the brain was unsuccessful—no improvement was evident and the patient, a young man, died in coma four months after a second operation. The influence of a tumor in the anterior frontal lobe, in altering the moral character, was very marked in this case. The other patient was a child of 18 months and the tumor, located in the post-Rolandic zone by the symptoms, was found and successfully removed. He is now in perfect health. The tumor was a dural fibrosarcoma. Roncati found blastomycetes in it, as had been observed by other authors in malignant tumors. The fact that blastomycetes can not be isolated and cultivated from them is not surprising, as when they assume the form known as Russell's corpuscles, no cultures can be derived. Blastomycetes will always be found in malignant tumors, Durante asserts, if they are sought for with skill and patience. The coccidii that have been found are in reality blastomycetes, and the latter are the actual etiologic factors of sarcoma and epithelioma.

Spinal Analgesia. BASTIANELLI.—In 36 operations with the aid of spinal cocainization the analgesia was incomplete or entirely absent in 12. The dose was 1 c.c. of a 1 per cent. solution of cocain. In one case there was serious collapse, and in another violent headache for a week. There was more or less intense and protracted headache lasting for variable periods in every case.

Preservation of the Ovaries After Hysterectomy for Myofibromata of the Uterus. PASCALE.—For three years Pascale has been making a special clinical and experimental study of the changes in the ovaries after complete ablation of the uterus for myofibroma. He invariably noted disturbances in the circulation, mostly mechanical, evidences of degeneration and processes of atrophy—a premature senility, which gradually overwhelmed the organ. The degeneration proceeds most rapidly in the parenchyma, while the epithelium does not degenerate with it at first, and this loss of balance between the two parts is probably the reason for the alteration of the ovary, in which it gradually loses its specific characteristics and its functionating power.

Action of Iodin in Tubercular Peritonitis. BIAGI.—Six cases of tubercular peritonitis are reported; all were cured by local injections of 1 to 3 cgm. of iodin a day. The absorption of the fluid was very slow. Ninety-three injections were necessary in one case. The iodin was given in Durante's iodin-

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iodid mixture. This communication was presented at the Italian Congress of Surgery two months ago, and others confirmed the results obtained with it and with Sclavo's iodized milk. It is possible to inject as much as 25 cgm. a day of the latter without pain. In some of the cases the cure has lasted for five years. The iodin is not a specific, but merely assists the organism to increase its powers of resistance.

Experimental Infection in Fasting Animals and Serotherapy. G. CASTRONUOVO.—Experiments on animals at the Naples clinic, in charge of De Renzi and Pane, show that fasting may hasten the fatal termination of infection's. Specific serotherapy in experimental pneumonia is unable to save the animal when the infection is too far advanced, but in an early stage it is invariably checked and the animal recovers. Anti-diphtheria serum, mixed with diphtheria toxin in such amounts as to neutralize a given quantity in the organism, is unable to produce this neutralization in fasting rabbits and death occurs.

Queries and Minor Notes.

PHOTOMICROGRAPHS.

OMAHA, NEB., Jan. 29, 1901.

To the Editor:—I write to obtain information relative to the making of some micro-photographs. The sections, from a tumor, are stained and mounted. I would like to have a number of negatives taken from which to select the ones I desire; I wish to have four and possibly five. Should I decide to have these micro-photographs colored can you tell me the probable cost and where I can have this work done in the most satisfactory manner? Very truly yours, J. E. S.

ANS.—In the first place, the term microphotograph is incorrect. Photomicrograph is what the writer evidently means, as microphotograph has a quite different signification. In all probability there are in every large city men who can do the work required above, but the only one we are at present able to refer the enquirer to, is Dr. W. H. Knap, 603 Stewart Bldg., Chicago. The coloring can be done by hand only. A rough sketch of the field desired should accompany the slides; the particular tissue or cells that the sender wishes brought out most clearly in photograph should be indicated.

PRACTICE IN OKLAHOMA.

BLUE HILL, NEB., Jan. 25, 1901.

To the Editor:—What is the law governing the practice of medicine in Oklahoma Territory? W. C. F.

ANS.—Oklahoma requires that the applicant shall be a graduate of a reputable medical college, of good moral character, and not a habitual drunkard. Presentation of diploma or proof by affidavit, if the same is lost or destroyed, and an affidavit from two reputable citizens in the county where he resides that he possesses the qualifications of a physician, to the superintendent of the public health, will obtain a license; otherwise an examination will be required.

ODOR OF MORPHIN.

KANSAS CITY, MO., Jan. 27, 1901.

To the Editor:—Does morphin impart to the breath of one addicted to the use of it, an odor by which it may be recognized? If so, what is it? Will you kindly give briefly the etiology, pathology, symptoms and treatment of strokers' cramps? G. B. T.

ANS.—Referred to our readers.—[Ed.]

TUBERCULOSIS TRANSACTIONS.

INDIANAPOLIS, IND., Jan. 28, 1901.

To the Editor:—Where and at what cost can the transactions of the last Congress of Tuberculosis (Germany) be secured? L. B.

ANS.—The Transactions of the Berlin Congress of Tuberculosis are not published in this country, and the bulk of the papers are in German or French. A copy can be obtained through any importing bookseller at a cost of between $3 and $4.

Change of Address.

F. J. Adams, 356 State St., to 325 Fairfield Ave., Bridgeport, Conn.
E. S. Albee, Kansas City, Mo., to 533 W. Monroe St., Chicago.
E. Villiers Appleby, St. Paul, to Duluth, Minn.
A. S. Ashmead, 65 W. 12th St., to 350 W. 23d St., New York City.
G. E. Bellows, Riverside, Cal., to 1810 E. 31st St., Kansas City, Mo.
W. H. Born, Lyons, to McRae, Ga.
C. Van Benschoten, S. Chicago, to 6303 Monroe Ave., Chicago.
J. Beisman, 147 Adams Ave. E., to 156 Montcalm St. E., Detroit, Mich.
W. W. Brown, Genoa Junction, to Leeman, Wis.
E. A. Colley, 304 N. 8th St., to 407 Christian College A., Columbia, Mo.
G. W. Crile, 275 Prospect St., to 169 Kensington St., Cleveland, O.
C. O. Decker, 606 Grand Ave., to Milwaukee Medical College, Milwaukee, Wis.
J. B. Doan, 393 Vance St., to 138 St. Paul St., Memphis, Tenn.
W. H. Douglass, Rush Hill, to Benton City, Mo.
A. J. Driskill, Grand River, to Marion, Ky.
N. W. Foster, 546 Mississippi St., to 876 Payne Ave., St. Paul, Minn.
M. R. Gage, Elroy, Wis., to Biloxie, Miss.
J. L. Gish, La Porte, to 215 W. Jefferson St., South Bend, Ind.
E. M. Houghton, 764 Champlain St., to 305 Penn Ave., Detroit, Mich.
G. H. Hocking, Govanstown, to York Road, Station H, Baltimore, Md.
C. J. Holman, Chicago, to St. Clair, Minn.
R. H. Hannah, Cashion, to Bellemont, O. T.
Chas. O. Hook, Chicago, to La Salle, Ill.
G. V. Hackney, 1409 Troost Ave., to University Medical College, Kansas City, Mo.
J. M. Hamblin, St. Joseph, to Westboro, Mo.
O. F. Howe, Graball, Tex., to 716 Campbell St., Kansas City, Mo.
H. T. Irving, 79 N. 3rd St., to 67 W. Main St., Newark, Ohio.
D. W. Jones, Jr., Hazlehurst, to Hermanville, Miss.
A. P. Jensen, 681 Van Buren St., to 240 Winchester Ave., Chicago.
Geo. E. Kincaid, St. Louis, Mo., to Box 11 West Liberty, Iowa.
C. S. Kinzer, Wytheville, to Interior, Va.
A. V. Lodge, Erie to Savonburg, Kan.
G. W. Launspach, Sioux City, Iowa, to Fulton, S. D.
A. C. Lippincott, Columbiaville, N. Y., to Columbia Falls, Maine
J. W. Leonard, 517 Rush St., to 502 N. 11th St., St. Joseph, Mo.
Hugh H. Lorimer, Fair Haven, to Iberia, Ohio.
E. J. Miller, Ashton, to Sycamore, Ill.
P. V. Mikell, Lady and Sumter Sts., to 1224 Plain St., Columbia, S. C.
W. T. Newman, 467 Madison St., Memphis, Tenn., to Gillsburg, Miss.
Ida M. Nulton, Hartford, to Columbia, Mo.
E. N. Nash, 126 S. Oak Park Ave., to Cook County Hospital, Chicago.
W. J. Omer, Lamoni, Iowa, to Pana, O. T.
S. F. Porter, 904 Cedar St., to 1031 Jefferson St., Nashville, Tenn.
H. W. Queen, Mercerville, to South Solon, Ohio.
C. L. Reason, 126 Hamilton St., to Health Office, City Hall, Cleveland Ohio.
Paul Van Riper, Niles, to Champion, Mich.
H. W. Rice, 1425 Plain St., to 1205 Gervais St., Columbia, S. C.
I. R. Schoonmaker, Providence, R. I., to Hallstead, Pa.
J. L. Williamson, La Casa, to Wayland, Tex.
I. C. Williams, Nashville, Tenn., to Colvin, Tex.
B. W. Yielding, Forest City, to Starrucca, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 17 to 23, 1901, inclusive:

Harry D. Belt, acting asst.-surgeon, former orders directing him to proceed to Manila on the transport *Wright*, revoked; leave of absence granted.

William C. Borden, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine officers of the army for promotion.

Lawrence C. Carr, major and surgeon, Vols., on expiry of present leave of absence to proceed to Havana, Cuba, for duty in the Department of Cuba.

Frederick W. Coon, acting asst.-surgeon, relieved from duty in the Department of Cuba: to proceed to San Francisco, Cal., for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

A. E. Disney, acting asst.-surgeon, from Washington, D. C., to San Francisco, Cal., for temporary duty at the general hospital, Presidio of San Francisco.

Herbert I. Harris, acting asst.-surgeon, member of a promotion board at St. Paul, Minn., vice Lieut.-Col. Calvin DeWitt, relieved from duty on the board.

William M. Hendrickson, acting asst.-surgeon, from Fort Flagler, to duty at Fort Casey, Wash.

John Van R. Hoff, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

James P. Kimball, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a promotion board convened at Omaha, Neb.

Louis A. LaGarde, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

Matthew W. Leepere, acting asst.-surgeon, member of a board at Omaha, Neb., to examine officers of the Army for promotion.

Arthur W. Morse, acting asst.-surgeon, from Odell, Ill., to San Francisco, Cal., for duty in the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine officers of the army for promotion.

Walter Reed, major and surgeon, U. S. A., on the adjournment of the Pan-American Medical Congress at Havana, Cuba, to Proceed to Washington, D. C., for the purpose of continuing his investigations at the Army Medical Museum with reference to the cause and prevention of yellow fever.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., resignation accepted, to take effect Feb. 3, 1901.

Anton R. Schler, acting asst.-surgeon, orders directing him to proceed from Burlington, Iowa, to San Francisco, Cal., for duty

with troops en route to Manila, P. I., revoked.

Dwight B. Taylor, acting asst.-surgeon, member of a promotion board at Columbus Barracks, Ohio.

Jesse P. Truax, acting asst.-surgeon, now en route to Fort Casey, Wash., will proceed to Fort Flagler, Wash., to relieve A. A. Surgeon W. M. Hendrickson.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., member of a promotion board at Columbus Barracks, Ohio.

Allie W. Williams, acting asst.-surgeon, leave of absence granted, with subsequent assignment to duty at Fort Columbus, N. Y.

Alfred A. Woodhull, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a board convened at the Army Medical Museum, Washington, D. C., to examine officers of the Medical Department as to their fitness for promotion.

In addition to the above, the following medical officers, captains and asst.-surgeons, U. S. A., were ordered to Washington, D. C., for examination for promotion: Charles M. Gandy, Jefferson R. Kean, Henry I. Raymond, Edward R. Morris, Leonard Wood, Jefferson D. Poindexter, and Charles E. Woodruff.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 26, 1901:

Asst.-Surgeon C. N. Fiske, detached from the *Wheeling* and ordered to the *Mohican* when the former is put out of commission.

Asst.-Surgeon H. C. Shiffert, appointed assistant-surgeon from Dec. 26, 1900

Medical Inspector D. N. Bertolette, detached from the medical examining board, Washington, and ordered home, Jan. 31.

Surgeon A. C. H. Russell, ordered to Washington, for duty as a member of the medical examining board, Jan. 31.

Surgeon W. H. Rush, ordered to the Pensacola Naval station for recruiting and other duty.

P. A. Surgeon R. K. Smith, detached from the *Pensacola*, Feb. 2, and ordered to the *Wisconsin*, Feb. 4.

Asst.-Surgeon M. V. Stone, detached from the *Solace* and ordered to the *Isla de Luzon*.

Asst.-Surgeon H. H. Hass, detached from the *Isla de Luzon*, and ordered to the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 24, 1901:

Surgeon George Purviance, granted leave of absence for two days.

Surgeon L. L. Williams, granted leave of absence for three days.

A. A. Surgeon L. C. Bean, granted leave of absence for two days from Jan. 18.

A. A. Surgeon R. C. Craig, granted seven days' extension of leave of absence.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general, U. S. Marine-Hospital Service, during the week ended Jan. 26, 1901:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Jan. 12-19, 2 cases.
Florida: Jacksonville, Jan. 12-19, 7 cases.
Illinois: Cairo, Jan. 5-19, 5 cases; Chicago, Jan. 12-19, 12 cases.
Kansas: Wichita, Jan. 12-19, 6 cases.
Kentucky: Lexington, Jan. 12-19, 2 cases; Louisville, Jan. 4-18, 1 case, 1 death.
Louisiana: Jan. 12-19, New Orleans, 7 cases, 2 deaths; Shreveport, 5 cases.
Massachusetts: Lawrence, Jan. 12-19, 1 case.
Minnesota: Minneapolis, Jan. 12-19, 11 cases; St. Paul, Jan. 5-12, 8 cases.
Nebraska: Omaha, Jan. 8-15, 7 cases.
New Hampshire: Manchester, Jan. 12-19, 39 cases.
New Mexico: Fort Stanton, Jan. 14, 1 case.
New York: Jan. 12-19, New York, 9 cases, 5 deaths; Utica, 1 case.
Ohio: Cincinnati, Jan. 12-18, 3 cases; Cleveland, Jan. 12-19, 57 cases, 1 death.
Oklahoma: Sixteen Counties, Jan. 11, 289 cases.
Pennsylvania: Jan. 12-19, Erie, 1 case; Pittsburg, 3 cases.
Tennessee: Memphis, Jan. 12-19, 6 cases.
Texas: Houston, Jan. 12-19, 44 cases.
Utah: Salt Lake City, Jan. 12-19, 32 cases.
Wisconsin: Green Bay, Jan. 13-20, 1 case.

SMALLPOX—FOREIGN.

Belgium: Liege, Dec. 15-22, 1 case.
Brazil: Pernambuco, Dec. 8-15, 34 deaths.
Egypt: Alexandria, Dec. 17-24, 2 cases, 2 deaths.
England: Leeds, Jan. 5-12, 1 case; London, Dec. 29-Jan. 5, 1 case.
France: Paris, Dec. 29-Jan. 5, 6 cases.
India: Bombay, Dec. 18-25, 1 death.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 3 deaths.
Scotland: Edinburgh, Dec. 29-Jan. 5, 1 case; Glasgow, Jan. 4-11, 66 cases, 3 deaths; Leith, Dec. 29-Jan. 5, 1 case.
Straits Settlements: Singapore, Dec. 1-18, 2 deaths.

YELLOW FEVER.

Colombia: Cartagena, Jan. 1-7, 2 cases.
Cuba: Cienfuegos, Jan. 14, 1 case; Havana, Jan. 5-12, 2 deaths.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 1 death.

CHOLERA.

India: Bombay, Dec. 18-25, 4 deaths.
Straits Settlements: Singapore, Dec. 1-18, 58 deaths.

PLAGUE.

India: Bombay, Dec. 18-25, 118 deaths.
England: Hull, Jan. 19, 5 deaths on S. S. *Friary*.
Russia: Tsarevsk district, Jan. 5, 19 cases, 15 deaths.

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